3

pectr. Temp. ....

ocus .....

pectr. Temp. ....

xp. Mtr.	Seeing

ectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

cus .....

ectr. Temp. ..... Dome Temp./Hum. .....

p. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				DAVID	DUNLAP		OBSERVATORY				
				74"	LOGBOOK						
				VOL	53						
				PLATES	43303	-	44200				
				MARCH - DEC.			1979				

5

Date Mar 20/21 Tues/Wed Observers Myd-Bts / KK-Bts

Emulsion Batches:
8m 68° IIaOe 12108 – 19039 16,192
5m 68° IIIaJe 31058 – 08039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
43303F	focus test							Fe/–	5-5		
43303	HR 483 HD 10307	1h 35.7	+42° 07	19 26	19 42	~7h?	-57° 14 (Console out)	Fe/ND×4	5-10	200/13	
43304	HR 2208 HD 42807	6 07.6	+10° 40	20 00	22 15	– –	+10 41	Fe/ND4	5-5-5	400/80	4
43304T	spot calib for	43303	– 06		D4 (1) 3900	D3 (2) 4300	D2 (3) 4810				
43305	HD 81809	9 22.8	-5° 38	22 23	00 04	2 13W		Fe/ND4	5-5-5	200/50	5
43306	HD 79210	9 07.8	+53 07	00 16	01 36			Fe/ND×4	5 5	800/31	
				01 43				Fe/–	5	200/	
43306F1	focus test							Fe/–	20-20		
43306F2	" "							Fe/–	15-15		
43306F3	" "							Fe/–	15-15		

Spectr. Temp. 47° Dome Temp./Hum. 42° Transparency Conditions thin cloud 6

Focus 500

Spectr. Temp. Dome Temp./Hum. 40°

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								A		47° 500	>10M cent Blue
200/13		5.6	G2II	BC	G12/.68	120μ	IIaOe	A	Solar Type	cut off too far West.	ok though wk
400/80	4"	7.1	G4	"	"	"	"	A	"	cleared completely	vs/wk
				"	"	"	"				
200/50	5.6	6.0	G2II	"	"	"	"	A			Fine
800/31		8.1	MOV	"	"	150μ	"	A	AsmSp-KK	Σ1321 brt, clouded out	v wk
200/				"	"	"	IIIaJe	A		44° 500 clouds	
				"	"	70μ	"	A			cent Blue
				"	G43/.5	"	"	A	after loosening corner clamps and putting paper shims beneath.		cent v Blue
				"	"	RS	"	A			" "

1

Wed-Thurs

Date MAR 21/22 /79 Observers But-Tn

Emulsion Batches:
8m 68° IIaO-e 12108 -19039 18 194
5m 68° IIIaJ-e 31058 -08039 26 255

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43307	HD 24398 ζ PER	03 47.8	+31 35	18 56	19 00	02 51 W	+31 39	Fe/NDx4	5-10
43308	HD 47256	06 32.6	+27 53	19 04	22 32	03 33 W	+27 39?	"	5-6-6
43308 T	Spot Cal's for 43307-08, 10-12.			15min @ 15V	D4 3900	D3 4300	D2 4810		
43309	HD 47105	06 31.9	+16 29	22 36	22 48	03 50 W		Fe/—	6-6-6
43309 T	Spot Cal's for 43309			15min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43310	HD 84441 ε LEO	09 40.2	+24 14	22 55	23 01	00 55 W	+23 50	Fe/NDx4	6-6-6
43311	HD 138406	15 26.8	+62 05	23 15	01 39	-02 10 E	+61 50	"	6-6-6
43312	HD 84441 ε LEO	09 40.2	+24 14	01 46	01 58	+03 52 W	+23 50	"	6-6-6
~~43313~~	~~HD 135679~~	~~15 11.3~~	~~+26 01~~	~~02 02~~	~~05 41~~	~~+02 06 W~~	~~+~~	"	~~6-6-6~~
43312F	FOCUS TEST								

Spectr. Temp.
Focus 500
Spectr. Temp.

Exp. Mtr.	Seei
40/10	1
400/78	"
40/40	2
40/12	1
400/91	1
40/10	1
400/79	1

Spectr. Temp. 49°F ..... Dome Temp./Hum. 47°F / 60 % Transparency Conditions sl. Hazy 8

Focus 500 - 503 .....

Spectr. Temp. 43°F ..... Dome Temp./Hum. 37°F / .....

Comparison /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5-10	40/10	1"-2"	2.7	B0	BC	G12/.68	120μ	IIaOe	B	STD VEL		sl str
	5-6-6	400/78	"	7.26	A3	"	"	"	"	A	Am MR	thin cloud broken 2pcs	
									"				
	6-6-6	40/40	2"	1.9	A0 IV	BC	G12/.68	120μ	IIIaJ-e	B	Asm Sp KK		sl str comp. str
									"				
	6-6-6	40/12	1"-2"	3.8	G0 p II	BC	G12/.68	120μ	IIaO-e	B	Rm-prog	47°F Set 503	sl str
	6-6-6	400/91	1"-2"	6.79	A0	"	"	"	"	B	Am MR		v sl str
	6-6-6	40/10	1-4	3.8	G0 p II	"	"	"	"	B	Rm Prog		v sl str
	6-6-6	~~400/79~~	~~1"-2"~~	~~6.67~~	~~B9~~	~~"~~	~~"~~	~~"~~	~~"~~	~~B~~	~~Ap MR~~	~~thin cloud~~ Dark Slide	
										B		-3μ	OK

9

Date MAR 22/23 THUR/FRI 79 Observers Bat-Tn

Emulsion Batches:
5m 68 IIaJ-e 31058 – 08039 28 258
8r 68* IIaO-e 12108 – 21038 19 206

Spectr. Temp. ...
Focus ... 502
Spectr. Temp. ...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
43313F1	FOCUS TEST							Fe/—	6-6	/	
43313F2	FOCUS TEST							Fe/—	6-6		
43313	HD 47105 (χ GEM)	06 31.9	+16 29	18 53	1900	+0005W	+16 23	Fe/—	6-6	40/30	
43313T	Spot Calib for 43313, 16.			15min @	17.5V D4 3900	15V D4 4300	15V D4 4810				
43314	HD 23408 (30 TAU)	03 39.9	+24 04	19 06	19 14	+03 11W	+24 19	Fe/ND×4	6-6-6	40/8	1
43315	HD 34547	05 13.2	+13 29	19 19	22 12	+0435W	+13 30	"	6-6-6	40/63	2
43315T	Spot Calib for 43314-15, 17-18.			15min @15V		D4 3900	D3 4300	D2 4810			
43316	HD 47105	06 31.9	+16 29	22 16	22 24	03 30W		Fe/—	6-6	40/34	2
43317	HD 138406	15 26.8	+62 05	22 30	01 26	-02 19E	+61 46	Fe/ND×4	6-6-6	400/80	2
43318	HD 137182	15 19.5	+10 54	01 33	0515	+0136W	+10 38	"	6-6-6	400/60	2

Spectr. Temp. 51°F Dome Temp./Hum. 48°F / 72% Transparency Conditions sl hazy 101

Focus 502

Spectr. Temp. Dome Temp./Hum. 48°F / 96%

Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6-6	✓				BC	G12/68	120μ	IIaOe	A	broken 1pc saved	+4μ?	good
6-6					"	"	"	"	B		+3μ	vsl red
6-6	40/30		19	AO IV	"	"	120μ	IIIaJ-e	B	Asm Sp KK		vsl str
								"				
6-6-6	40/8	1"-2"	3.8	B9	BC	G12/68	120μ	IIaO-e*	B	B STD VEL		vsl str
6-6-6	400/63	2	7.5	B9	"	"	"	"	B	Ap MR		exp fine sl v flex?
								"				
6-6	40/34	2	1.9	AO IV	BC	G12/68	120μ	IIIaJ-e	B	Asm Sp KK		sl str
6-6-6	400/80	2-3	6.19	AO	"	"	"	IIaO-e	B	Am MR		fine red sl fuzzy?
6-6-6	400/60	2"-4"	7.19	AO	"	"	"	"	B	"	cloud at end	fine

11

Date MAR. 26/27. MON/TUES. 79 Observers Bert - Tr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43319	HD 138406	15 26.8	+62° 05'	21 15				FE ARC / ND x4	6 —

Spectr. Temp.

Focus 5

Spectr. Temp.

Exp Mtr	Seeing
8001	5

Spectr. Temp. 27°F Dome Temp./Hum. ..... Transparency Conditions Cloud soon after opening. 12

Focus 507

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	800/	5"	6.79	AO	BC	612/68	150μ	IIaOE	B	Am 14		

13

769-6043

Emulsion Batches:
8m 68° IIaO-e 12108 - 21038
5m 68° IIIaJ-e 31058 - 08039

Date MAR 27/28 TUES/WED Observers Bart - Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43319	HD 47105 (γGEM)	06 31.9	+16 29	19:01	19 08	+00 33 W	+16 26	FE ARC/—	6 6
43319T	Spot Cal'n for 43319								
43320	HD 23408 (2 TAU)	03 39.9	+24 04	19 11	19 20	+03 37 W	+24 17	FE ARC/HD X4	6-6-6
43320T	Spot Cal'n for 43320-23.								
43321	HD 47256	06 32.6	+27° 53'	19 23	23 08	+04 33 W	+27 48	Fe/[illegible]	6-6-6
43322	HD 138406	15 26.8	+62° 05'	23 14	02 03	-01 22 E	+61 45	"	6-6-6
43323	HD 137182	15 19.5	+10 54	02 10	05 33	+02 14 W	+10 37	"	6-6-6
43323T	Spot Cal'n for Gies	Special request			60min D2@15V 4300;	15min D3@15V 4300	D3@7.5V 30min 4300		
43323F1	Focus Test							Fe/—	6-6
43323F2	Focus Test							Fe/—	6-6
MAR 28									
43323F3	Focus Test	a new docker system test				0h	*-20°	Fe/—	6-6
43323F4	" "	"	"	"	"	0h	-20°	Fe/—	6-6

Spectr. Temp. 30°F ..... Dome Temp./Hum. 34°F/.65% Transparency Conditions GOOD 14

Focus ..... 507 .....

Spectr. Temp. 24°F ..... Dome Temp./Hum. 20°F/.93%

Brt Meteorite thru Nerveus @ 21:10 (fire ball)?
But saw one earlier in same area (THRU FILTER)

Comparison /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	6	40/29		1.9	A0 IV	BC	G12/.68	120μ	III a J-E	B	Asm Sp KK		sl str
									"				
		40/8		3.8	B9	BC	G12/.68	120μ	II a O E	B	B STD VEL		vsl str
									"				
	6-6	400/80	2-4	7.26	A3	BC	G12/.68	120μ	"	B	Am MR		fine sl Y flux
	6-6	400/87	2"	6.79	A0	"	"	"	"	"	"		fine
	6-6	400/83	2"	7.19	A0	"	"	"	"	"	"	Temp +25°F Focus 508	fine
		Test of varying Int & Exp, keeping Int x Exp = const hopefully							II a O-E		From same batch as used all night		
	6-6					BC	G12/.68	120μ	"	A	24°F Set 508	-7μ	vsl blue
	6-6					"	"	"	"	B		-2.5μ	vsl blue
	6-6	*Too wet to go up				BC	G12/.68	120μ	III a J	B	Set 502 Temp +46°F	* wk	cent blue
	6-6	(After blue end CW 30° adj)				"	"	120μ	III a J **	A	Set 502	* old batch wk	cent blue
												* understandably	

15

Tests Only

Date Sun. Apr. 1/79 Observers T.n

Emulsion Batches:
IIaO E 12108 – 21038
098-02E only ones in Vac

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43323F5	Focus Tests to check set-altitude relat'n					0h	-20°	Fe/–	6-6
43323F6	" Comp of PHA & B					0h	+35°	Fe/–	6-6
43323F7						0h	+35°	Fe/–	6-6
43323F8	Focus Test Set Far out to check Red end changes					0h	+35°	Fe/–	6-6
43323F9	G16 Focus Test "					0h	+35°	Fe/– Ne/–	8-8 18-18
43323F10	" " "					0h	+35	"	"
43323F11	Full Ap Focus & Exp Test] Stellar region Exposed also (Fe/– 8), (Ne/– 18)					0h	+35	Fe/ND×4 Ne/–	8-8-8 8-8-8
43323F12	G16 Focus Test					0h	+35	Fe/– Ne/–	8-8 18-18

KK note – All plates dev 5 min @ ≤ 68°F – If you think the 098 are too fogged, then perhaps a fresh batch should be prepared for Dot. If worried about these unnatural stellar shifts, perhaps more tests should be done if it looks like clearing Mon afternoon.

Tn

RSa shifts may have been caused by my "holding" decker rod up during stellar exps.

Spectr. Temp. +40°F ..... Dome Temp./Hum. *+36°F/.... Transparency Conditions 16

Focus 502-510-504 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

* Dome & Spect temp probably stable for last couple of Days; Unlike conditions when 43323F3 & F4 were taken

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIaO-e	B	504		Red end sharp right on
Set reset to 511 s then 504				"	"	"	"	B	504 (*Prob with decker??)		no stellar
				"	"	"	"	A	504 → stellar exp ensured by holding decker up during exp		cent very Blue
Set 496				"	"	"	"	B			cent v. Blue
Set 504				"	G16/.7	120μ	098-02	A	(On Taking out G12 I noticed that front brake was reversed)		cent very very Blue
"				"	"	"	"	B			cent Blue
"	Comp shift Test as well			"	"	"	"	B	? should be resolvable when measured	Exp good	cent very Blue ??
"				"	"	"	"	A	? Comp Ne put on last		Fe cent Far Blue

*Decker assembly push rod may fall or spring down after setting stellar posn. May have done so on Exp F6

Note - I must have jarred slit loose after F6 exp when experimenting with decker assembly.

Date TUES/WED. APR. 3/4 79 Observers [illegible]

Emulsion Batches:
IIa-e 21058 → 27039
IIa-e 12108 → 29039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43323F13	Focus Test							Fe/— Ne/—	8-3 [illegible]
43323F14	" "							Fe/—	15 16
4	HD 47105 (8 GEM)	06 31.9	+16 29	19 03	19 15	1 08 W		Fe/—	16 10
43324T	Spot Calib for 43324				15 min @	17.5V D4 3900	15V D4 4300	15V D4 4800	
43325	HD 23408 (20 Tau)	03 39.9	+27 04	19 24	19 36	4 21 W	+24 20	Fe/[illegible]	6-6-6
43326	HD 47256	06 32.6	+27 53	19 41	23 14	05 05 W	+27 50	Fe/[illegible]	6-6-6
43326T	Spot Calib for 43325-28				15 min @ 15V	D4 3900	D3 4300	D2 4800	
43327	HD 138406	15 26.8	+62 05	23 20	02 50	-00 06 E	+61 46	Fe/ND4	6-6-6
43328	HD 156547	17 13.1	+26 00	02 55	04 42	-00 03 E	+25 55	"	6-6-6

Spectr. Temp. +43°F ..... Dome Temp./Hum. +38°F / 50% Transparency Conditions .. Very good ... 18.

Focus .... 503 .....

Spectr. Temp. +34 °F ..... Dome Temp./Hum. +30°F / 85% Super Aurora with zenith Flashed Aurora at 3 AM after a long [illegible]

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	120μ	098 [illegible] E	B		sl blue, ends better than center	
				BC	G8/.25	120μ	IIIa J e	B		blue & center, v. sl. red red, v sl blue	
40/58	2"-3"	1.9	A0 IV	BC	"	120μ	"	B	Asm Sp-KK	Close to Moon	red sharp blue sl fuzzy
							"				
40/8	2"-4"	3.8	B9	BC	G12/.68	120μ	IIa e E	B	B STD VEL		v. sl. str sharp in center
400/50	3"-5"	7.26	A3	"	"	"	"	B	Am-MR	Aurora T=41°F	exp fine. red end fuzzy, sl. flexure (Y, mostly) Molecular band (!) bet. Hβ & Hη
				"	"	"	"				
400/70	5"-2"	6.79	A0	"	G12/.68	120μ	"	A	Am MR	thin cloud s Aurora	star fine & sharp comp lines doubled
400/23	3"	7.09	A1	"	"	"	"	B	Am MR	thin cloud s bit Aurora	ok, red sl. fuzzy
									Cloud [illegible]		
									IIIa J = 098 in Exp [illegible]		

11 19

Date Apr 7/8 Sat/Sun Observers Mis-Bts/Bln-Bts

Emulsion Batches:
IIaOe 12108-28039
IIIaJe 31058-27039
IIaOe 12108-07049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison E
43329F	focus							Fe/-	6-6
43329	HD 91316	10h 27.6m	+9° 49'	19 32	20 42	01h 03m E	+9 26	Fe/ND4	
S1	Strip Cal	for plates	43329-43334						
S2	Strip Cal								
S3	Strip Cal								
43330	HD 91316	"	"	20 43	21 44	00 01 E	+9 26	Fe/ND4	7-8-8
43330T	Spot Cal	for plates	43329-43334	15 min 15V	① D7 3900	② D3 4500	③ D1 4810		
43331	HD 91316	"	"	21 47	22 30	00 45 W	+9 26	Fe/ND4	8-8-8
43332	HD 91316	"	"	22 33	23 04	01 19 W	+9 26	Fe/ND4	8-8-8
43333	HD 91316	"	"	23 09	23 23	01 38 W	9 26	Fe/ND4	8-8-8
43334	HD 91316	"	"	23 26	23 39	01 59 W	9 26	Fe/ND4	8-8-8
S1	Strip Cal	for plates	43335-38, 40.						
S2	Strip Cal								
S3	Strip Cal								
S4	Strip Cal								

pectr. Temp. 34° F Dome Temp./Hum. 27° F / 69% Transparency Conditions thin cloud 20

ocus 506

pectr. Temp. Dome Temp./Hum.

xp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120μ	IIaDe	A		34°F 506	NO GOOD SLIT MOVED
200/160	3-4	3.71	B1Ib	BC	G8/.025	120	IIaDe	A	Cal. Std.		str
60 sec											
4 min											
16 min.											
200/120		"	"	"	"	"	"	B	" "		OK
200/80		"	"	"	"	"	"	A	" "	32° F 506	OK
200/50		"	"	"	"	"	"	B	" "	possible starlight down comparison due to decker linkage slipping	s/ Fe in [illegible]
200/30		"	"	"	"	"		A	"	30° F 507	Fe in stellar poin
200/16		"	"	"	"	"	"	B	"	Fe in [illegible]	
60 sec.											
90 sec											
4 min											
16 min.											

2)

Date Apr. 7/8 (con't) Observers Bln - Bts

Emulsion Batches: 09802e - 19098 - 08039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43335	HD 91316	10^h $27^m.6$	+9° 49'	23 41	23 48	02 03W	+9 26	Fe/ND4	
43336	"	"	"	23 59	00 05	02 20W	+9 26	Fe/ND4	8-8
43337	"	"	"	00 09	00 23	02 38W	+9 26	Fe/ND4	8-8
43338	focus							Fe/—	8-8
43338	HD141458	15^h $44^m.1$	+13° 01'	00 42	03 07	00 05W	+12 49	Fe/ND4	8-8
43338T	spot calib	for plates	43335 -		15s 15min (1) D4 3900	(2) D3 4300	(3) D2 4810		
43339	HD139892	15^h $35^m.37^s$	+36° 58'	03 15	04 08	01 16W	+36 44	Fe/ND4	6-6
43340	HD163506	17^h $51^m.4$	+26° 04'	04 13	05 22	00 15W	+26° 05'	Fe/ND4	6-6
43340T	spot calib for	43339	15min (1) D4 3900	17.5s (2)	D4 15s 4300	(3) D1 15s 4810			
43340F	focus							Fe/—	5-5

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 22

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/20	5	3.71	B1Ib	BC	G8/-.025	120μ	IIaOe	A	Cal. Std	new box of plates	OK
200/10				"	"	"		B			some [illegible]
200/40	4	3.71	B1Ib	BC	G8/-.025	120μ	IIa-OE	B	Cal. Std.	clear	
				BC	G16/.7	120μ	098	A	[illegible]		sl blue
400/75	3-4	6.80	A0	BC	G8/-.025	150μ	IIaOe	A			[illegible]
80/50	2	4.95	B7V	BC	G12/.68	150μ	IIIaJe	A	SB-Blu/Ly	Middle Fe arc exp on * spectra	* Red/Fuzz Ly OK
200/50	2-3	5.81	F2Ia	"	"	150μ	IIaOe	B	Caph-Fe	26°F 508	red fuzzy Fine
							IIIaJe				
							IIaOe	A		26°F 508	[illegible]

23

Date APR 9/10 Mon-Tues 79 Observers [illegible]

Emulsion Batches: 8" 68° IIaOe 12108-07049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43341	HD 138406	15 26.8	+62 05	00 12	03 04	+00 30W	+61 48.	Fe/NO4	6-6
43341T	spot calib for	43341-42	15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810			
43342	HD 135679	15 11.3	+26 01	03 09	05 12	+02 53W	+25 44	FE/NO4	6-6
43342F	focus							Fe/-	6-6

Spectr. Temp. 36° Dome Temp./Hum. Transparency Conditions slight haze 24.

Focus 506 F

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/75	3-5	6.79	A0	BC	G12/.68	120μ	IIaDe	A	Am MR	36°F 506	Fine red fuzzy
400/60		6.67	B9	BC	G12/.68	120μ	IIaOE	B	Ap MR	34°F 506	Fine red fuzzy
				"	"	"	"	A		33°F 506	OK

25

Date Apr 10/11 1979 Tues/Wed Observers Fgi-Bts / Rm-Bts

Emulsion Batches:
IIaOe 12108-07049
12108-10049
4 cm 0.98oz 19098-10049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43343F	FOCUS							Fe/-	6-6
43343	HD 84441 (ε Leo)	9h 40.2	+24° 14'	19h 44	19h 53	0h 54E	+23° 48	Fe/NAx4	6-6
43344	HD 89449 (40 Leo)	10h 14.3	+19° 59	20 01	20h 41	0h 39E	+19 34	Fe/ND4	[illegible]
43345	HD 118216	13h 30.3	+37° 42	20 54	21h 36	2h 59E	+37 18	Ne/- Fe/ND4	[illegible]
43344T	spot calib for	43343/4	15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810			
43346	HD 118216	13h 30.3	+37° 42	21h 38	23h 00	1h 35E	+37 18	Ne/- [illegible]	[illegible]
43347	HD 118216	13h 30.3	+37° 42	23 02	23h 58	0h 39E	+37 18	Ne/- [illegible]	[illegible]
43348	HD 84441	9h 40.2	+24° 14	00h 10	00h 19	3h 33W	+23° 54	Fe/[illegible]	6-6
43349	HD 89449	10h 14.3	+19° 59	00h 27	01h 42	4h 22W	+19° 35	[illegible]	6-6
43349T	spot calib for	43345/47	15min	15V D3 ① 4810	7V D1 ② Hk	7V D2 ③ 5450			
43350	89 Her: HD 163[illegible]	17h 57.4	+26° 4	01h 54	03h 55	01 01E	+26 04	Fe NAx4	6-6
43350T	spot calib for	43348/51	15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810			
43351	HD 186687 = SU Cyg	19h 40.8	+29° 01	04h 05	05h 10	1h 35E	+29° 13	Fe [illegible]4	6-6
	FOCUS							Fe/-	6-6

Spectr. Temp. 38° Dome Temp./Hum. 36°F/63% Transparency Conditions Some cloud 26

Focus 505

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIa-Oe	A		38° 505	Cent sl red sl fuzzy
100/25	4"-5	3.8	G0p(II)	BC	G12/.68	120μ	IIa-Oe	A	Cepheid/Evans		red sl fuzzy Fine
200/50		5.3	F5V	BC	G12/.68	120μ	IIaOe	A	"		"
200/50		5.3	F2IV	BC	G16/.7	120μ	098-02e	A	RS CVn/Fqi	+38° 505	v sl str wrong tilt (Hβ lost) some UV contam - inactive
							IIaOe				
200/100		5.3	F2IV	BC	G16/.7	120μ	098-02-e	B	RS CVn/Fqi		"
200/66		5.3	F2IV	BC	G16/.7	120μ	098-02-e	A	RS CVn/Fqi		"
100/25		3.8	G0p(II)	BC	G12/.68	120μ	IIaOE	B	Cyph/Evans	+36° 505 new box of plates	red/fuzzy Fine
100/25		5.3	F5V	BC	"	"	IIaOE	A	" "		"
							098-02e				
200/49		5.82	F2Ia	BC	G12/.68	150μ	IIaOE	B	Cyph/Evans	[illegible]	red/fuzzy sl str
							IIaOe				
400/51		6.8-7.7	F0-G1	BC	G12/.68	150μ	IIaOe	A	Cyph/Evans		Fine red fuzzy
				BC	G12/.68	150μ	IIaOE	A		34° 505	cent v sl blue red hazy

27 Tests

Date Apr. 12 ..... Observers Tn .....

IIIaF-e 23117-02039

Emulsion Batches:
IIaO-e 12108-10049
098-02e 19098-10049
IIIaJ-e 31058-27039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. / Exp Mtr / Seeing
43351 F2	Hartman Focus Test					0h	+20°	Fe/—	15-15	Set 503
F3	" " "							Fe/—	15-15	Set 508
F4	Full Aperture Focus Test (including Stellar exp)					Comp 1st		Fe/NDA	45-45	Set 505
F5	" " "	"	"	"	"	Stellar 1st		Fe/—	15-15	Note Took care
F6	Full Aperture Test Compony							Fe/NDA	15	
F7	" " "							"	15	
F8	" " "							Fe/—	15	
F9	Full Aperture after grating rotated							Fe/—	15	
F10	"							Fe/NDA	15	
F11	"							"	15	
F12	Full Aperture after further rot'n of grating							"	15	
F13	"							"	15	
F14	Standard Focus test							Fe/—	15-15	T=+4

Spectr. Temp. +41°F ..... Dome Temp./Hum +39°F / 60% Transparency Conditions 28

Focus .....

Spectr. Temp. +42°F ..... Dome Temp./Hum. .....

Comparison /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
/ –	15-15	Set 503 } exactly				BC	G12/.68	120μ	III aJ-e	A			right on
/ –	15-15	Set 508 }				"	"	"	"	A			red red [illegible]
[illegible]	[illegible]	Set 505				"	"	"	"	B	* using ND×4		blue red fuzzy?
–	15-15	Note Took care in triggering interlock				"	"	"	"	B			[illegible]
[illegible]	15					"	"	"	II aO-e	B			red fuzzy
[illegible]	15					"	"	"	098-22e	B			red fuzzy
–	15					"	"	"	III aF-e	B			sharp
–	15					"	G12/.48	"	III aJ-e	B			
[illegible]	[illegible]					"	"	"	098-22E	B			
[illegible]	15					"	"	"	II aO-e	B			4400 fuzzy
[illegible]	15					"	G12/.28	"	II aO-e	B			" " "
[illegible]	15					"	"	"	098-e22E	B			
[illegible]	[illegible]	T = +42°F set 505				"	G12/.68	"	III aJ-e	B	m		cent st Red

29 More Tests

Date Fri. Apr. 13. GF Observers Tn

Emulsion Batches:
IIaO-e 12108:10049
IIIa-J-e 31058:27039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
4 3351F15	Hartman Focus Test	Set to straddle "correct" Focus pt				0^h	$+15^\circ$	Fe/—	4-4
F16	Full Aperture test at same setting			Stellar incl 2nd				Fe/—	4-4
F17	" "	" "						Fe/ND4	6
F18	Hartman Focus Test	Set to straddle focus pt on other side						Fe/—	4-4
F19	Full Aperture test at same setting			stellar incl 2nd				Fe/—	4-4
F20	" "	"						Fe/ND4	6
F21	Full Aperture tests at "Correct" setting				Stellar incl 2nd			Fe/—	8-8
F22		"						Fe/ND4	8-8
F23		"						Fe/ND4	12
F24		"						"	3

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mir | Seeing

Spectr. Temp. ..... Dome Temp./Hum. +40°F/100 % Transparency Conditions Raining 30

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

* Comp controle power on during 40 min of tests only.

Comparison /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1	4	Set 500	Temp 43 °F			BC	G12/'68	120μ	IIaO-e	B	✓	m cent	st blue
1	4					"	"	"	IIIaJ-e	B	✓	m	
	6					"	"	"	IIaO-e	B			H
	4	Set 505	Temp 43 °F			"	"	"	IIaO-e	B	✓	m cent	[illegible]
	4					"	"	"	IIIaJ-e	B	✓	m	[illegible]
	6					"	"	"	IIaO-e	B			H? crisp
	[illegible]	Set 503	Temp 43 °F			"	"	"	IIIaJ-e	B			
	[illegible]					"	"	"	"	B			[illegible]
	12					"	"	"	IIaO-e	B			
	3					"	"	"	"	B			[illegible]

31

SAT - Sun

Date Apr. 14-15 / 79 ..... Observers BK - TN .....

Emulsion Batches:

B^m 680 IIaO-e 12108 - 12049 22 196

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43352	HD 74874	8 41.5	+6 47	21 46	22 07	2 35 W	+6 32	Fe/NDx4	4-3-3
43353	HD 112033	12 48.4	+21 48	22 10	23 05	0 34 E	+21 24	"	3-3-3
43353T	Spot Cal's for 43352-54			15min @ 15V		D4 3900 D3 4300	D2 4810		
43354	HD 113022	12 55.7	+18 55	23 06	0 06	0 20 W	+18 32	Fe/NDx4	3-3

Spectr. Temp. 44°F ..... Dome Temp./Hum 40°F / 98% Transparency Conditions ... Hazy ..... 32 ....

Focus .. 503 .....

Spectr. Temp. .. 42°F ..... Dome Temp./Hum 38°F / 100+

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
80/22	4"	394	F8	BC	G12/68	120μ	Tide	B	Waterloo	Fe OK	Fine
400/100	4"-7"	586	K0	"	"	"	"	A	"		Fine
							"				
400/35	2-3	66	F8 I	BC	G12/68	120μ	"	B	waterloo	v sl wk	

33

Tues-Wed

Date Apr. 17-18/79 Observers T.m. / Rm-Tn

Emulsion Batches:
8h 67° IIaO-e 12108-12049
5h 66° IIIaJ-e 31058 14049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43355	HD 84441 ε Leo	9 40.2	+24 14	19 41	19 47	0 34E		Fe/NDx4	4-6
43356	HD 89449 40 Leo	10 14.3	+19 59	19 50	20 19	0 34E	+19 35	"	3-3-3
43356T	Spot Cal'n for	43355-56, 59-62, 65-			15 min @ 15V	D4 3900	D3 4300	D2 4810	
43356F	Focus Test					2h W	+28°	Fe/—	13-[illegible]
43357	HD 62509 B Gem	07 39.2	+28 16	20 29	20 35	2 16 W		Fe/—	4-4
43358	" B Gem	"	"	20 37	20 43	2 23 W		"	4-4
43358T	Spot Cal'n for	43357-58, 63-64.			15 min @	D4 3900	15V D4 4300	15V D4 4810	
43359	HD 112028	12 48.3	+83 58	20 59	22 02	1 22E	+83 31	Fe/NDx4	3-3-3
43360	HD 97937	11 10.7	+13 23	22 08	23 53	2 04W	+13 00	"	3-3-3
43361	HD 89449	10h 14.3	19° 59	23 56	00 34	3 41W		Fe NDx4	3-1-3
43362	HD 84441	9h 40.2	+24 14	00h 36	00 46	4 27W		Fe NDx4	2-3-3
43363	HD 124897 α Boo	14 11.1	+19 42	00 50	00 53	0h 04 W	19° 19	Fe/—	3-3
43364	"	"	"	00h 55	00 58	0 08W	"	Fe/—	3-3
43365	HD 163506 [illegible] Her	17h 51.4	+26° 4	01 05	01 59	2 30E	+26° 06	Fe [illegible]	3-3-3
43366	HD 186678-SU Cyg	19h 40.8	+29° 01	02h 06	4 26	1 50E	+29° 14	Fe NDx4	3-2-2

Spectr. Temp. +47°F ..... Dome Temp./Hum. 44°F / H=70% Transparency Conditions [illegible] 3

Focus ...502 .....

Spectr. Temp. 43 ...°F ..... Dome Temp./Hum. 37°F / 80% gusty

Comparison e/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	4-6	40/11	2"	3.8	GOpII	BC	G12/68	120μ	IIaO-e	A	Capt-Ram		Fine
	3-3-2	80/22	1-2"	5.3	F5V	"	"	"	"	B	Capt-Ram std vel	possible trouble with Fe Arc having blue [illegible]	Fine
									"				
—		Focus 502		T=47°F		BC	G12/68	120μ	IIaJ-e	A			comp on one side
—	4-4	40/43	3	2.15	KOIII	"	"	"	"	A	std vel Focus 505	Lots fuzz, Cam Sharp	Fine
	4-4	40/50	3	"	"	"	"	"	"	A	std vel Focus 499		Fine
									IIIaJ-e			see "Log"	
						Note Previous Comp may be affected by dewter position							
	3-3	200/63	2'-5"	5.2	Shell	BC	G12/68	120μ	IaO-e	B	Shell-Ram Focus 502	Sky [illegible]	Old sky
	3-3	200/66	3'-6"	6.49	A6n	"	"	"	"	A	SB Elm		Fine
	3-1-2	80/19	5"-8	5.3	F5V	"	"	"	"	B	Capt/Evans std vel		Fine
	2-3	40/10	"	3.8	GOpII	"	"	"	"	A	Capt/Evans		Fine
—	3-3	40/45	"	1.3	K2	"	"	"	IIIaJ-e	B	std vel	T=44°F set 500	Lots [illegible]
—	3-3	40/95	"	"	"	"	"	"	"	B	"	Set 505	" fuzzy
	2-3	400/109	3"			"	"	150μ	IIaJ-e	A	Capt/Evans	set 503	sl sky
	3-1-2	200/100	3"	6.8-7.7	F0-G1	"	"	"	"	B	Capt/Evans	thin sky Cloud	Fine

35 Page #1

Date 18/19 April 1979 Observers KK-Tn/ Ly-Tn

Emulsion Batches:
4½" 68° IIIaJ-e 31058-14049
8" 68° IIaO-e 12108-18049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.	Seeing
43366F1	Reg focus test							Fe/–	12-12		
43366T	Full Aperture Test Stellar 1st, Comp							Fe/–	12-12		
43367	HD 61412	7 34.0	+5 29	19:51	19 56	1 46 W	5 13	Fe/–	5-6	40/60	4"
43368	HD 47105	6 31.9	+16 29	20:00	20 23	3 15 W	16 23	Fe/–	4-4-4	40/60	3-4
43369	"	"	"	20 25	20 31	3 23 W	"	Fe/[illegible]	4-4	[illegible]	[illegible]
43369T	Spot Cal'n for	43367-68,70,73,76		15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810				
43370	HD 61412	7 34.0	+5 29	20 35	20 38	2 32 W		Fe/–	4-4	40/60	
43371	HD 76151	8 49.4	-5 4	21:44	22 11	2 47 W	-5 25	Fe/ND	[illegible]	[illegible]/70	2-3
43372	HD 103095	11 47.2	+38 26	22 17	23:57	1 35 W		"	3-3-3	40/92	
43372T	Spot Cal'n for 43369,71-72,74-75,77-78.				15 min @	15V D4 3900	D3 4300	D2 4810			
43373	HD 124897	14 11.1	+19 42	0 03	0 04	0 42 E		Fe/–	3-5	40/30	
43373F	Focus test							Fe/ND	3-4		
43373T	Full aperture test, stellar 1st							Fe/			
43374	HD 84441	9 40.2	+24° 14'	00 19	00 28	04 13 W	+23 50	Fe/ND	6-3	[illegible]/69	[illegible]
43375	HD 89449	10 14.3	+19 59	00 33	01 22	04 39 W	+19 31	"	3-3-3	20/45	[illegible]
43376	HD 139892	15 35.6	+36 58	01 37	3 41	1 32 W	+36 38	Fe/–	3-3-3	[illegible]/60	[illegible]

Spectr. Temp. 47°F Dome Temp./Hum. 42°/70% Transparency Conditions clear, few streaks 36

Focus 501

Spectr. Temp. Dome Temp./Hum. /

Comparison Type/Filter	Comparison Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	12-12					BC	G8/-.025	70μ	III aJ-e	B			sl red
[illegible]	[illegible]					"	"	"	"	A		1.9μ blue	sl blue
[illegible]	[illegible]	40/60	4"	0.78	F5 IV-V	"	"	"	III aJ-e	B	Std Vel	dCMi	fine comp v sl wk
[illegible]	[illegible]	40/60	3-4	1.7	A0 IV	"	"	"	"	B	Asm-Spec/KK		"
Fe/ND	[illegible]	40/[illegible]5	"	"	"	"	"	"	II aD-e	B	"		"
									III aJ-e				fine comp sl wk
[illegible]	[illegible]	40/60		0.78	F5 IV-V	BC	G8/-.025	70μ	III aJ-e	B	std vel		
[illegible]	[illegible]	[illegible]/70	2-3	6.7	dG3	"	G12/168	150μ	II aD-e	B	Asm-Spec		[illegible]
[illegible]	[illegible]	400/92	"	6.45	G8 VI	"	"	"	"	A	"		[illegible]
[illegible]									"				
[illegible]	[illegible]	40/30		1.29	K0	BC	G12/168	150μ	III aJ-e	B	std vel		ok
Fe/ND	3-4	Set 501		T = 44°F		"	"	"	II aD-e	A			sl blue
[illegible]						"	"	"	II aD-e	A		-.3μ blue ? or O	sl blue
[illegible]/ND	6-3	40/109	5"	3.8	G0 II p	"	"	120μ	II aD-e	B	Cryst-Rn	focus changed to 502 44°F	[illegible]
"	3-3	200/45	2"-10"	5.3	F5 V	"	"	"	"	B	[illegible]		
[illegible]	3-3	80/≈60	2"	4.95	B7 V	"	"	"	III aJ-e	A	SB Blu/Ly	cloud Center	fine

37

Date 18/19 Apr 79 CONT'D Observers Lg - Tr

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43377	HD 175426	18 50.2	+ 3 51	3 47	04 25	00 57E	+36 52	Fe/1D	5-33
43378	"	"	"	4 27	05 02	00 21E	"	"	33-3

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..Patchy Cirrus..... 38

Focus .....502.....

Spectr. Temp. ..+41°F..... Dome Temp./Hum. +35°F/83%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	400/60	2"-6"	5.3	B3	BC	G12/68	120μ	IIaOe	B	SB-Ly		vsl str. [illegible]
	[illegible]	400/	2-3	"	"	"	"	"	"	A	"		[illegible]

39

Thurs Fri

Date Apr 19-20/79 Observers Lg-Tn / Tn

Emulsion Batches:
4m 68° IIIa-J-e 31058 – 19049
8m 68° IIa-O-e 12108 – 18249 .20 203
4m 68° IIIaP

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43378F	Focus Test							Fe/—	12-12
43379	HD 47105	6 31.9	+16 29	19 37	19 52	2 46W		Fe/—	5-3
43380	HD 30869	4 46.2	+13 29	20 07	21 22	6 04W	+13 39	Fe/ND	3-3
43380T	Spot Cal'n for 43379, 81-82.			15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43381	HD139892	15 35.6	+36 58	22 10	23 48	2 17 E	+36 43	Fe/—	2-3
43381T	Spot Cal'n for 43380								
43382	HD124897	14 11.1	+19 42	00 07	00 09	0 33E		Fe/—	5-5
43382T1	Comp exp, normal setup							Fe/—	10
T2	7 mil shim under plate at outer edge of holder								
T3	" " " " " inner " " "								
T4	Comp exp test							Fe/— Ne/—	10 30
T5	Comp exp test							Fe/— Ne/—	20 20

Spectr. Temp. 49°F Dome Temp./Hum. 45°F / H-55% Transparency Conditions Fine 40

Focus 502

Spectr. Temp. 45°F Dome Temp./Hum. 40°F / [illegible]

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	70μ	IIIaJ	B			ok
—	1-2	1.9	A0IV	"	"	70μ	IIIaJ-e	B	Asm Sp KK		comp. V wk & uneven *
800/70	4"-8"	6.77	F5	"	G12/68	150μ	IIaOe	A	SB - Bln	telescope reversed	
							IIIaJ-e				
20°/164	2"	4.95	B7V	"	"	120μ	IIIaJ-e	A	tour	Saturn & Jupiter	comp wk & uneven *
							IIaO-e				
40/34	2-3"	1.29	K0	BC	G12/.68	120μ	IIIaJ-e	B	Std Vel	[illegible]	comp wk & uneven *
				"	"	70μ	IIIaJe	B			
				"	"	"	"	"			
				"	"	"	"	"			
				"	G16/.7	"	IIIaFe	A			
				"	G16/.7	"	IIIaFe	B			

* arc electrode gap too wide
plates insufficiently evacuated

41

Fri/Sat

Date April 20/21 1929 Observers Tnr / Tn

Emulsion Batches:
ΠaO-e 12108 - 12049
098-2E 19098 - 10049 33 192

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43383	HD 30869	4 46.2	+13 29	19 51	21 13	5 59 W	+13 41	Fe/ND	3-3-3
43383T	Spot Calib for 43383-85				15min @ 15V	D4 3900 D3 4300 D2 4800			
43384	HD 62509	7 39.2	+28 16	21 22	21 24	3 16 W	+28 05	Fe/ND	3-6
43385	HD 127617	14 27.3	+19 13	21 36	02 17	1 23 W	+18 50	Fe/ND	3-3-3
43386	HD 187921 SV Vul	19 47.4	+27 12	02 28	04 23	1 50 E	+27 24	Fe/ND Ne/—	5-5-5 5-5-5
43386T	Spot Calib for 43386-87			15min @	15V D4 4810	7V D1 Hα	7V D2 5450		
43387	HD 161096	17 38.5	+4 37	04 29	4 33	0 28 W	+4 33	Fe/ND Ne/—	7-7 7-7
43387T	Full aperture		Comp & Stellar → (fired with failure circuit)						
43387F	Focus Test								

Spectr. Temp. 53°F ..... Dome Temp./Hum. 52°F / 50% Transparency Conditions sl. Hazy 42

Focus ....500.....

Spectr. Temp. 51°F ..... Dome Temp./Hum. 48° / 60%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/80	2"-5"	6.77	F5	BC	G12/.68	150μ	IIaOe	B	Hyades Bin/Tnr	reversed	
							"				
40/10	2-3"	2.18	Ko III	BC	G12/.68	150μ	IIaOe	B	Std Vel	note posn of image on plate telescope reversed	
800/113	2-3.1"	8.2	Be	BC	G12/.68	150μ	IIaOe	B	Tnr Be	plate cap found partly down hazy	
400/112	1"	V≈6.8 MAX	≈G	BC	G16/.7	150μ	098-02E	B	Ceph-Rm-Tnr		
							"				
40/12	1"	V 2.77	K2 III	BC	G16/.7	150μ	"	B	Std Vel		
				"	"	"	IIaO	B			
				"	"	"	098	B			

43

Date 28/23 Apr 1919 Observers Ly-Tn-KK / Bb-Tn

Emulsion Batches:

IIuO-e* 12108-22049 .20 190

III 2 F

III 2 J 31058-19049 .24 234

IIuO-o 12108-18049 .26 200

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43387C	Comp exp test							Fe/ Ne/	10 20
43388	HD47105	06 31.9	+16 29	19:35	19 50	02 56 W	+16 24	Fe/- Ne/-	[illegible]
43389	"	"	"	19 59	20 12	03 19W	"	Fe/-	5-5
43390	HD61412	07 34.0	+05 29	20:15	20 20	02 26W	+05 15	Fe/-	5-5
43391	HD 72208	08 26.5	+10 09	20:27	22 10	03 23 W	+9 51	Fe/ND	3-4-4
43391T	Spot Calc for	43389-90		15min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43392	HD 89449	10 14.3	19 59	22 14	22 42	2 08 W	+19 32	Fe/ND	4-4-4
43392T	Spot Calc for	43391-93		15min @ 15V		D4 3900	D3 4300 D2 4810		
43393	HD 84441	9 40.2	+24 14	22 46	22 53	2 53 W	+23 52	Fe/ND	6-6
43394	HD 139892	15 35.6	+36 58	22 59	00 15	1 38E	+36 40	Fe/-	4-4-4
43395	HD 141458	15 44.1	+13 01	00 19	01 55	0 8E	+12 45	Fe/ND	4-4-4
43396	"	"	"	01 56	03 22	01 19 W	"	"	4-4-4
43396T	Spot Calc for	43395-97		15min @ 15V		D4 3900 D3 4300	D2 4810		
43397	HD 141458	15 44.1	+13 01	03 23	04 33	2 31 W	+12 45	"	4-4-4
43397F	Focus Test							Fe/-	4-4

Spectr. Temp. 56° Dome Temp./Hum. 54°F / 84% Transparency Conditions clear 44

Focus 499

Spectr. Temp. 50° F Dome Temp./Hum. 45° / 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/7	70μ	IIIaF	A			
40/60	3"	1.9	A0 IV	Be	G16/7	RS	IIIaF	A	Acm - KK	mask + V in exp. motor	
40/60	2"	"	"	Be	G8/.25	120μ	IIIaJ	B	"		
40/60		0.8	F5 V	"	"	"	"	B	Sr. Vol		
400/60	2"-4"	6.5?	A0p	BC	G12/.68	120μ	IIaO-e	B	SB Ly		
							IIIaJ-e				
400/78	3-4	5.3	F5 V	BC	G12/.58	120μ	IIaO-e	B	stdv Rm		Fine
							"				
40/10	4"	3.8	G0p II	BC	G12/.68	120μ	"	B	Ceph Rm	— Fe sist	Fine
200/95		4.9	B7 V	"	"	"	IIIaJe	B	SB. Pbn/Ly		sl wk
400/60	2"-4"	6.80	A0	"	"	"	IIaO-e*	B	SB - Bln		
400/58	"	"	"	"	"	"	"	A	"		Fine
				"	"	"	"				
400/42	3"	6.80	A0	BC	G12/.68	"	IIa-oE	B	SB - Bln	some cloud	v sl wk
				"	"	"	"	B			v sl wk

45

Date APR 23/24 MON/TUES 79 Observers [illegible]

Emulsion Batches: 12108
4m 68° IIIa-e ~~31058~~-22049 .10 2.20
8m 68° IIaO-e 12108-22049 .17 1.96

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43398F	Focus Test							Fe/—	14-14
43398	HD 47105 γGEM	06 31.9	+16 29	19:40	19:53	+03 05W		FE/—	4-4-4
43399	HD 62509 βGEM	07 39.2	+28 16	19 57	19 59	+02 03W		FE/[illegible]	[illegible]
43400	HD 138406	15 26.[illegible]	+62 05	20 21	23 21	+2 18E	+61 47	FE/[illegible]	4-3-4
43400T	Spot Cal'n for 43398			15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		-
43401	HD 131182	15 19.5	+10 54	23 25	02 44	+01 10W	+10 36	Fe/ND	3-3-3*
43401T	Spot Cal'n for 43399-43402			15 min @ 15V		D4 3900 D3 4300	D2 4810		
43402	HD 156547	17 13.1	+26 00	02 47	04 44	01 17W	+25 53	Fe/ND	3-3-3
Filed									

Spectr. Temp. 59°F ..... Dome Temp./Hum. 58°F/613 Transparency Conditions Hazy 46

Focus ....499.....

Spectr. Temp. 53°F ..... Dome Temp./Hum. 50°F / 70%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120μ	IIIaJ-e	B			sl. ved
40/35	2	1.9	A0	BC	G12/68	120μ	IIIaJE	B	ASM-KK		vsl wk comp ok
40/11	2	2.15	K0 III	"	"	"	IIaOE	B	STD VEL		orc sl stronger-one side
800/130	1"-2"<1"	6.79	A0	"	"	"	"	B	Am MR	thin cloud chaze <1" seeing at end	fine, v sl flex
							IIIaJ-e				
800/80	1-3"	7.19	A0	BC	G12/68	120μ	IIaO-e	A	Am MR	→ Fired 2nd Mtr because [illegible] not hazy here's cloud [illegible] maybe [illegible]	fine both sl Y flex
							IIaO-e				
800/90	2"-4"	7.04	A1	BC	G12/68	120μ	IIaOE	B	Am MR		fine

KK. Maybe good idea to push IIaOs

Left over IIaO strips left in dome for tests.

47

Date April 29/30 Sunday Observers Bln - Bts/Bts

Emulsion Batches:
8m 68° IIaOe 12108-24049 18 199
5m 68° IIIaJe 12108-22049 13 242

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43402F	focus							Fe/-	3-3
43403	HD 84441 (E Leo)	09h 40.2m	+24° 14'	21 06	21 13			Fe/ND4	4-5
43404	HD 89449 (40 Leo)	10h 14.3m	+19° 59'	21 15	21 57	01 50W		Fe/ND4	3-3-3
43404T	spot calib for	43403-05, 07		15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43405	HD 112028	12h 48.3m	+83° 58'	22h 09m	23 46	+01 08W	+83° 32'	Fe/ND4	3-3-3
43406	HD 141458	15 49.1	+13 01	23 51	03 03	01 28W	+12° 49'	Fe/ND4	3-3-3
43407	HD 139892	15h 35.6m	+36° 58'	03 12	04 38	03 13W	+36° 44'	Fe/-	4-3-3
43407T	spot calib for	43406		15min	D4 17.5V ① 3900	D4 15V ② 4300	D4 15V ③ 4810		
43407F	focus							Fe/-	3-3
07F2	focus							Fe/-	3-3

Spectr. Temp. 47°F Dome Temp./Hum. 42°F/79% Transparency Conditions scattered thin cloud 48

Focus 502

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIaDe	A		47°F 502	v sl blue
40/11	3-4	3.8	G0 (II)	BC	G12/.68	120μ	IIaDe	A	Cygh-Km		v sl str
200/55		5.3	F5 I	"	"	"	"	B	Std. Vel.	clear	sl str
200/65	3-6	5.2	A0	"	"	"	"	A	Shell-Blu	147°F 502	sl str arc wk one side
400/60	3	6.32	A0	BC	G12/.68	120μ	IIaDE	B	Sp. Bin-Bln		
100/175	3	4.95	B7 I	BC	G12/.68	120μ	IIIaJe	A	"		sl wk, arc fine
				BC	G12/.68	120μ	IIaDe	B		502	
				"				A		40° 504	good

49

Date May 1/2 Tues/Wed Observers Bln-Bts / Rm-Bts

Emulsion Batches:
8h 68° IIaOe - 12108 - 24049 21 197
IIIaJe - 12108 - 22049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43408F	focus							Fe/-	8-8
43408	HD 84441 ELeo	09 40.2	+24° 14'	19 58	20 09	00 44W	+23° 54	Fe/ND4	5-5-5
43409	HD 89449	10 14.3	+19 59	20 12	20 59	01 00W	+19 35	Fe/ND4	5-5-5
43410	HD 88021	10 03.8	+2° 49'	21 04	00h 21	04 34W	+20 27	Fe/ND4	5-5-5
43411	HD163506	17h 51.4	+26° 4	00h 32	01h 42	0 52E	+26° 04	Fe/ND4	3-3-3
43411T	Spot calib for 43408		15 min	@ 15v	D4 3900	D3 4300	D2 48[illegible]		
43412	HD186688 SU Cyg	19h 40.8	+29° 01	01h 49	04 07	-01 15E	+29° 12.7	Fe ND4	3-3-3
43412F	focus							Fe/-	3-3

Spectr. Temp. ..... Dome Temp./Hum. 40°F/76% Transparency Conditions 50

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/.68	120μ	IIaDe	A		45° 502	sl wed
800/300	4-5	3.8	G0p (II)	"	"	"	"	A	Ceph Rm		v sl str
200/75	2-3	5.3	F5 V	"	"	"	"	B	Std. Vel		v sl str
800/119	2	7.20	g G5+ A2	BC	G12/.68	150μ	IIaOE	A	VB-Bln	cirrus at 22:30	fine
300/161		5.82	F2Ia	BC	G12/.68	150μ	IIaOE	B	Ceph/Em	42° 503	v sl str
							IIaOE			quite clear	
800/79	3-4	6.8-7.7	F0-G1	BC	G12/.68	150μ	IIaOE	A	Ceph/Rm	cirrus Cloud	v sl wk flexure
				"	"	"	"			40° 504	ok

5'

Date May 2/3 Wed/Thurs Observers KK-Tu

Emulsion Batches: IIaJ 12108 - 22019 12 238

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43413	HD 47105	6 31.9	+16 29	20:04	20 38	4 25 W		Fe/—	4-4-4
~~43414~~	MOON	8 02	+16 40	20 55	21 30	W		Fe/—	4-4
43414T	Spot Cal'n for 43413-14			15min @	17.5V 04 3900	15V 04 4300	12V 04 4810		
43414T1	Full Aperture test							Fe/—	10,10
43414F1	Focus Test							Fe/—	6,6
43414F2	MAY 4 Tests Focus Test				+20°	0h		Fe/—	6-6
43414F3	Focus Test							"	6-6
43414T4	Full Aperture without docker assembly ie by hand, gently							"	6-6
F5	Focus Test								
F6	Focus Test								
43414T2	Full Aperture without docker assembly (ie Coupler)								
43414T3	" " with docker, assembly - normal → gentle								

Spectr. Temp. 46°F ..... Dome Temp./Hum. 46°F / 74% Transparency Conditions clouds 52

Focus ... 502 .....

Spectr. Temp. 46°F ..... Dome Temp./Hum. ..... / .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/35	2"-4"	1.9	AOIV	BC	G12/.68	120μ	IIIJ	B	Asm Spec/KK		ok
40/55		—	GO V	BC	"	"	"	B	Std Vol	thick cloud Cont?	too wk
							"				
				"	"	"	IIIJ	B			cont sl blue ~~Fine~~
				"	"	"	"	B			Fine ~~cont sl blue~~
set 502	T=	45°F		"	"	"	098me	B			
				"	"	"	"	A			
				"	"	"	"	B			no sh ft
				"	"	"	"	B	[illegible] A [illegible]		
				"	"	"	"	A			
				"	"	"	"	B			no sh ft
				"	"	"	"	H		cent -2.5m	

53

Fri-Sat

Date MAY 4-5 /79 Observers Tn - Tnr

5m 68°
8m 68°

Emulsion Batches:
IIIa J-e 12108 - 22049 13 17
IIaO-e 12108 - 01059 20 19

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43414	HD 47105	06 31.9	+16 29	20 03	20 17	4 12 W	+16 26	Fe/—	6-6
43415	"	"	"	20 19	20 36	4 31 W		Fe/—	6-6
43416	HD 62509	07 39.2	+28 16	20 40	20 50	3 37 W		Fe/—	6-6
43416T	Spot Cal'n for 43414-16			* 5 min	@ 17.5V D4 3900	15V D4 4300	15V D4 4810		
Proceeding with tests after closing the wide Fe Arc gap.									
43416T1	Full Aperture (note All these using decker assembly (ie coupler) & of course 0 Hrs						+15°	Fe/—	15-15
43416T2	"	firing stellar with manual control.)						"	"
43416T3	"							"	19-19
43416T4	"							"	23-23
43416T5	"							"	"
43416T6	"	without decker assembly (but may have been rough)						"	"
43417	HD 127617	14 27.3	+19 13	22 25	03 23	3 25 W	+18 51	Fe/ND	4-4-4
43417T	Spot Cal'n for 43417-19				15 min @ 15V	D4 3900	D3 4300	D2 4[illegible]	
43418	HD 180163	19 10.4	+38 58	03 30	03 40	1 00 E	+39 05	Fe/ND	4-4
43419	HD 163506 (89 Her)	17 51.4	+26 04	03 43	04 17	0 55 W	+26 03	Fe/ND	4-44

Spectr. Temp. 45°F Dome Temp./Hum. +40°F / 80% Transparency Conditions Sem. - Cloudy 54

Focus 502

Spectr. Temp. Dome Temp./Hum. +31°F / 92%

note: Focus Tests, etc. [illegible] on previous page

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/36	3"	1.9	A0 IV	BC	G12/.68	120μ	IIIa J-e	B			
40/40	4"-8"	"	"	"	"	"	"	B			
40/7	"	2.15	K0 III	"	"	"	"	B		cloud	
* Who left timer at 5 min, instead of 15 min							"				
								prob too narrow			
Set 502	T=	43°F		BC	G12/.68	120μ	IIIa J-e	B		[illegible]	
				"	"	150μ	"	B		[illegible] no shift	
				"	G16/.7	150μ	"	B	wk Comps	[illegible] or cent very sl [illegible] or no	
				"	"	70μ	"	A		[illegible]	
				"	G81/.025	70μ	"	B			
				"	"	120μ	"	A		Fe Arc gap widened	P=60 shift
800/70	3-5"	8.2?	Be	"	G12/.68	150μ	IIa J-e	B	Be Tnr	Set 503 T=43°F	sl wk
							"				
40/7	3"	4.3	B5	"	"	"	"	B	Std. Vel -B	Set 505 T=38°F	[illegible]
400/75	2	5.81	F2 Ia	"	"	"	"	A	Ceph-Fe		[illegible]

55

Date May 6/7 Observers KK-Tn

Emulsion Batches: IIaOe 12108-01059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43419 T1	Full aperture, normal decker coupler, minimum force					0h	+30°	Fe/–	25-25
T2	"	"						"	"
T3	", decker coupler disconnected, decker moved by hand					"		"	"
T4	",	"	"	"	" "	"		"	
T5	"	Decker removed						"	25
T6	"	"						"	25
T7	Full Aperture, normal decker couple, minimum force							FeNe/–	25-25
T8	" "	"	"	"	"	Comp - stellar		"	15-15
43419 F1	Focus test					0h	+30°	Fe/–	23-23
F2	"					"	"	"	"

Spectr. Temp.
Focus 504
Spectr. Temp.
Exp Mtr | See

Spectr. Temp. 43°F ..... Dome Temp./Hum. +41°F / H=99% Transparency Conditions ..... 5.6.

Focus ..504.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	5/2/68	120	IIaJ n	A	Tests	re centered electrodes before exposures	-1.2 μ
				"	"	"	" n	B			-1.3 μ
stellar	1st			"	"	"	" old	A	Tu done		-0.8
comp	1st			"	"	"	" old	B	KK done		-0.2
				"	"	"	"	A			-0.5
				"	"	"	"	B			
				"		"	IIaO-e	A	right Hand window less illuminated		
				"	"	"	"	B	KK done	small lens + diffuser (# 4 pos)	
T=43°F	504 set			"	"	"	IIaJ old	A			+4.0
"	"			"	"	"	"	B			

57

Date MAY 7/8 MON. TUES. 74 Observers [illegible]

Emulsion Batches: 8h 69° IIaO-e 12108 - 01059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43420 F1	Focus Test					0h		FE [illegible]	[illegible]-24
43420 F2	"					0h			[illegible]-24
43420	HD 47015 (6 GEM)	07 31.1	+16 27	20 03	20 09	+04 17 W	+16 25	Fe/[illegible]	6-4
43421 ✓	HD 62509 (P GEM)	07 39.2	+28 16	20 14	20 17	+03 17 W	+28 03	"	6-4
43422	HD 138406	15 26.8	+62 05	20 27	23 59	-00 45 E	+62 46		4-4-4
43422T	Spot Calc for 43420-24			15 min	@ 15V	D4 3900 D3 4300	D2 4810		
43423	HD 156547	17 13.1	+26 00	00 06	03 36	+01 04 W	+25 52	FE/[illegible]	4-4-4
43424 ✓	HD 163506	17 51.4	+26 04	03 38	04 18	+01 10 W	+26 01	"	4-4-4
43424T	Full Aperture Comp c Stellar without decker coupler						"	Fe/—	24-24

Spectr. Temp. +55°F Dome Temp./Hum. 54°/77% Transparency Conditions hazy - thinning 58

Focus 500

Spectr. Temp. +53°F Dome Temp./Hum. +50°/80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120μ	IIIaJ	A			sl ved
				"	"	"	"	B			sl red
40/9	4-15°	1.9	A0 IV	"	"	"	IIaO-e	B	Am Spec/KK		v sl str
40/11	4-8	2.15	K0 III	"	"	"	"	B	STD. VEL.		v sl str
400/60	4-7	6.79	A0	"	"	"	"	A	Am MR		[illegible]
							"				
400/51	3-10°	7.04	A1	BC	G12/68	120μ	"	B	Am MR	broken Main pc saved	
40a/59	2-10	5.81	F2 Ia	"	"	"	"	A	Ceph-Fe		[illegible]
Slit Rotn test also				"	"	200μ	IIIaJ	B			[illegible]

59

New D19

Date May 8/9 Tue/Wed ? Observers Rm. Tu

Emulsion Batches:
5m 68° III aE 12108 - 0[illegible] 17144
8m 68° IIaO E 12108 - 0[illegible] 24185

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43425	HD 47015 (γ Gem)	6h 31.[illegible]	+16° 27	20:03	20 27	4 38 W	16° 24.5	Fe/[illegible]	4-4
43426	HD 62509 (β Gem)	7h 39.2	+28° 16	20:31	25 40	3h [illegible] W	28° 04	Fe/[illegible]	4-4
43426T	Spot Calib for 43425	26,30,		15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43426F1	Focus Test					3h 47W	+28°	Fe arc/[illegible]	14-14
43426F2	" "					1h 54W	+23°	Fe arc/[illegible]	8-8
43427	HD 84441 - ε Leo	9h 40.2	+24° 14'	21h 00	21h 06	2h 10W	+23° 52	Fe/ND[illegible]	7-7
43428	HD 81449 = 40 Leo	10h 14.3	+19° 59	21h 11	22 [illegible]	2 34W	+19° 34	[illegible]	7-7
43429	HD 84441 = ε Leo	9h 40.2	+24° 14	22h 09	22 22	3 25W	+23° 52	[illegible]	[illegible]
43430	HD 137909 = β CrB	15h 23.7	+33 27	22h 26	23h 34	1h 04E	+29° 09	[illegible]	7-7
43430T	Spot Calib for 43427-29				15 min @	15V 3900	D3 4300	D3 4810	
43431	HD 163506 = 29 Her	17h 51.4	+26° 4	23h 43	0h 28	*2h 35E	+26° 01	Fe/ND[illegible]	4-4-4
43432	HD 176386 - SU Cyg	19h 3.8	+29° 12	0h 37	3h 02	1h 53E	+29° 11	Fe/ND[illegible]	4-4-4
43433	HD 180583	19h 12.0	+27° 45	3h 05	4h 15	0h 11E	+27° 52	Fe/ND[illegible]	4-4-
						*Rm - get your E & W Right			

Spectr. Temp.
Focus 4
Spectr. Temp.

Exp. Mtr.	Seeing
40/40	3
40/47	3
40/15	2
250/[illegible]	1
40/15	2
40/10	2-3
40/68	3
800/11	3
200/31	2

Spectr. Temp. 70°F ..... Dome Temp./Hum. 67°F/H=65% Transparency Conditions . Hazy 60

Focus ..... 495 .....

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/40	3"	1.9	A0IV	BC	G12/.68	120μ	IIIaJ-e	B	Arm Spec KK		sl wk
40/47	2"-3"	2.16	K0III	BC	"	"	IIIaJ-e	B	Std Vel		sl wk
							"				
				BC	G12/.68	120μ	IIIaJ-e	A			cont Pigeon
				BC	G8/.025	120μ	IIIaJ-e	B		spect. Temp 70° focus 495	cont sl red
40/15	2	3.8	G0pII	"	"	"	"	B	Cyph-Rm		Fine
200/60	1"-2"	5.3	F5V	"	"	"	"	B	Std Vel		Fine
40/15	2"-6"	3.8	G0pII	"	"	"	"	B	Cyph/Rm		Fine
40/60	2-3	3.93	F0p	"	"	"	IIIaJ-e	B	KK		Fe wk wk
							IIaO-e	B	Cyph, Rm		
400/68	3"-5"	5.82	F2I	"	G12/.68	150μ	IIaO-e	B	" "		Fine
800/117	3"-5"	6.8-7.7	F0-G1	"	"	"	"	A	" "	67°F Focus=497	Fine sl Fe in Stellar
200/31	2"-6"	6.2	F6I	"	"	"	"	B	" "		Fine sl Fe in Stellar

61

Date May 9/10 Wed/Thurs 79 Observers Blu-Tu-KK

Emulsion Batches:
8m 68° IIaOe 12108 - 01059 25 181
8m 68° IIaO-e* 12108 - 07059 24 175
6m 68° IIIaI-e 12108 - 06059 21 177

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43433F	Focus Test							Fe/—	14-14
43433A	HD 47105	6 31.9	+16 29	20 01	20 04	4 18 W		Fe/ND	6-6
43434	"	"	"	20 06	20 09	4 23 W	+16 27	Fe/ND	6-6
43435	HD 61412	7 34.0	+5 29	20 13	20 15	3 28 W	+5 17	"	6-6
43436	"	"	"	20 19	20 20	3 34 W	"	"	"
43437	HD 88021/2	10 03.8	+20 49	20 24	23 31	04 14 W	+20 26	Fe/ND4	4-4-4
43437T	Spot Cal'n for 43433-36			15min @ 15V	D4 3900	D3 4300	D2 4810		
43438	HD 139892	15 35.6	+36 58	23 37	01 00	00 14 W	+35 42	Fe/—	4-4-4
43438T	Spot Cal'n for 43437, 40-41.			15min @ 15V	D4 3900	D3 4300	D2 4810		
43439	HD 141513	15 44.4	−3 07	01 07	01 45	00 47 W	−3 22	Fe/—	6-6-6
43439T	Spot Cal'n for 43438-39, 42.			15min	D4 15V @ 3900	D4 15V 4300	D4 15V 4810		
43440	HD 147835	16 19.1	+32 34	01 51	02 38	01 08 W	+32 23	Fe/ND	4-4-4
43441	HD 157482	17 18.5	+40 04	02 42	03 09	0 40 W	+40 00	"	4-4-4
43442	HD 164284	17 55.3	+4 22	03 12	04 04	0 59 W	+4 23	Fe/—	4-4-4
43442F	Focus Tes							Fe/—	14-14

Spectr. Temp. 76°F Dome Temp./Hum. 75°/84% Transparency Conditions scattered cloud - HAZE 62

Focus 494

Spectr. Temp. 72°F Dome Temp./Hum. 69°F/92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIIaJ	B			cont Red
40/7	3"	1.9	A0 IV	BC	"	"	IIa0-e	B	Asm Spec		[illegible]
40/6½	"	"	"	"	"	"	"	B	"		
40/7	"	0.8	F5V	"	"	"	"	B	std vel	Procyon	
40/7	"	"	"	"	"	"	"	B	"		
400/128	1-2	7.20	g65+ A2	BC	G12/.68	120μ	IIa-0E*	B	VB-Bln	sl fes! wk	Flex Fine
							IIa0-e				
200/120	1-2"	4.95	B7V	BC	G12/.68	120μ	IIIaJ-e	B	SB Bln-Ly		wk
							IIa0-e*				
80/76	1"-2"	3.50	A0V	BC	G8/.025	150μ	IIIaJ-e	A	SB Bln		wk
							"				
200/31	1"	6.18	A3V	BC	G12/.68	150μ	IIa0-e*	B	SB-Bln		Fine
200/35	1"	6.22	dF8	"	"	120μ	"	A	"		Fine sl guiding
80/60	1-3"	4.79	B2Ve	"	"	150μ	IIIaJ-e	B	SB Bln		Fe in stellar wk
				BC	G12/.65	150μ	IIa-0	A		72°F	vst Red OK

63 #1

Thurs - Fri

Date May 10-11/79 Observers K.K.-T.n.

Emulsion Batches:
Hal-e 12108 - 07059
Hal-e 12108 - 06059 is 208
OR-one 19098 - 08059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43443	HD47105	06 31.9	+16 29	20 11	20 20	4 38W	+16 25	Fe/ND	6-6
43444	HD61472	7 34.0	+5 29	20 26	20 28	3 45W	+5 16	"	6-6
43445	HD 62509	7 39.2	+28 16	20 33	20 36	3 47W		"	6-6
43445F	Focus Test					0h	+28	Fe/-	16-16
[illegible]T1	Full Aperture Shift Test with coupler (very gently)							Fe/-	16-16
43445T2	"	"		"	normal			"	15-15
43445T3	"	"		"	with vigor			"	15-15
43445T4	Full Aperture Shift Test without coupler & very very gentle							"	15-15
43446	Moon	Exp mode Test		21 21	21 24		-10 58	Fe/ND	6-6
43447	"	" "	"	21 38	21 40			Fe/-	8-8
43448	"	" "	"	21 43	21 44			Fe/ND	6-6
43449	"	" "	"	21 46	21 50			Fe/-	8-8
43450T	SpOT Calm for 43443-46, 48				15min @ 15V	D4 3900	D3 4300	D2 4810	
43450	Saturn	10 38.3	+10 44	22 07	22 33	02 51W		Fe/ND Ne/-	8 8 8 8
43451	Moon			22 40	23 53	0 40E		Fe/-	4-8-

Spectr. Temp. 73° Dome Temp./Hum. 68°F / 95% Transparency Conditions Hazy Cloudy 64

Focus 494.5

Spectr. Temp. ..... Dome Temp./Hum. ..../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/7	3.5"	1.9	A0 IV	BC	G12/.68	120μ	IIa0-e	B	Asm Sp		fine
40/6		0.8	F5 V	"	"	"	"	B	std vel		fine
40/11		2.15	K0 III	"	"	"	"	B	"		fine
				"	"	"	IIIa J	B	T=73°F set 494.5		sl Red
Comp 1st				"	"	"	"	B		[illegible]	-1.5μ
Comp 1st				"	"	"	"	A		Exp IIa0	-2.4μ
Comp 1st				"	"	"	IIIa J-e	B		Focus test	-6.0μ
Comp 1st				"		"	"	A		[illegible]	-2μ ?R
40/8.8	Blue Filter			"	"	"	IIa0-e	B	Prob overexposed		sl str
40/14.4	Blue Filter			"	"	"	IIIa J-e	A			fine
100/5	Blue Filter			"	"	"	IIa0-e	B			
40/100	Mush + Clear			"	"		IIIa J-e	A			v sl str
							IIa0-e				
40/10	V filter			BC	G16/.7	"	O9 [illegible]	B			fine
40/60	V filter			"	"	"	IIIa F	A	Cloud		sl str

#2

65

Date ..... Observers .....Tn.....

Emulsion Batches: ..III.o.F. 23 117-02039

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43451T1	SPOT Calc for			15min @		17.5V D4 3900	15V D4 4300	15V D4 4210	
43451T2	Spot Calc for Dev Comparison			15min @		15V D4 4300	15V D4 4210		
43451T3	Full Aperture Test of stellar shift with coupler					06 0E	+30°	Fel—	15-15
43451T4	" "	" "	" "	" "		06 0E		Fel—	15-15
43451T5	Flexure Test		Comp	05h40E	Stellar set when at	0h	+30°	Fel—	15-15
43451F1	Focus Test					0h	+30°	"	15-15
43451F2	" "					0h	+30°	"	15-15

Spectr. Temp. ..... Dome Temp./Hum. ..... 199% Transparency Conditions .. Cloudy .....

Focus ..... 496 .....

Spectr. Temp. .. 68°F ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					13 208		IIIa-e				
~~placed in 098 Exp Box~~ left in sensitometer					15 239		"				
comp	1st			BC	G121/68	20μ	"	A	} normal force	T=68°F Set 496	
stellar	1st			"	"	"	"	B	} on coupler	Labeled T4 again [illegible] of confusion	−2.3μ
								B			cent very blue
								B	T=68°F Set 496		sl red
								A	" "		v sl red

67

Date May 11-12 Fri-Sat. Observers KK-Tn

Emulsion Batches:
IIIa J-e 12108 - 10059
09802E 19098 - 08059 27, (5)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seemp
43452F	Focus Test							Fe/-	20-20		
43452T1	Full Aperture shift test with coupler Normal for KK					4 30 W	+16 29	Fe/-	20-20		
43452	HD 47105	6 31.9	+16 29	20 08	20 50	5 15 W	"	Fe/-	8-8	400/35	4.5
43453	"	"	"	20 54	21 21	5 44 W	+16 31	Fe/ND	8-8	400/17	"
43453T	Spot Calc for 43452			15 min @	17.5 U D4 3900	15 U D4 4300	15 U D4 4810				
43454	HD 62509	7 39.2	+28 16	21 28	21 39	4 55 W	+28 09	Fe/ND	8-8-8	400/92	5
43454T	Spot Calc for 43453-55			15 min @	15 U D3 4810	7 01 Hα	7 D2 5450				
43455	HD 121370	13 49.9	+18 54	21 46	22 07	0 47 E	+18 28	Fe/ND	8-8-8	400/90	3
43455F1	Focus Test					"	"	Fe/-	12-12		
43455F2	" "					"	"	Fe/-	15-15		

Spectr. Temp. 70°F Dome Temp./Hum 68°F / 92% H Transparency Conditions Very hazy

Focus 494

Spectr. Temp. 69°F Dome Temp./Hum. 63°F / 100%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	G8/-.025	120μ	IIIaJ-e	B		~~discarded~~ v Red ~~no stellar~~	
[illegible]	[illegible]					"	"	120μ	"	B	reversed	cent blue	~~discarded~~ ~~no stellar~~
[illegible]	[illegible]	400/35	4-5	1.9	AO IV	BC	G8/-.025	120	[illegible]e	B	Asm Spec KK	blue filter, canned kept through	almost black
[illegible]	[illegible]	400/17	"	"	"	BC	G16/.7	120	098-02e	A	"	V filter in meter	wk
									IIIaJ-e			slightly mottled	
[illegible]	[illegible]	400/92	5	2.15	KO III	BC	G16/.7	120μ	098-02E	B	~~st~~ Vel	v Filter reversed also	Fine
									"				
[illegible]	[illegible]	400/90	3	2.8	GO	BC	G16/.7	120μ	"	B	Asm Sp KK	v Filter unreversed	OK
[illegible]	[illegible]					"	"	"	IIIaF	B		69°F, 494	ok ~~vat blue~~
[illegible]	[illegible]					"	G16B'/.38	"	IIIaJ-e	B			cent very blue

69

Sun-Mon

Date MAY 13-14/79 Observers Bln-Tn

Emulsion Batches: IIaO-e 12108 - 09059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43456F	Focus Test					0"		Fe/—	15-15
43456T	Spot Cal'n for	43456-61		15min	@ 15V	D4 3900 D3 4300	D2 4810		
43456	HD 47105	06 31.9	+16 29	20 11	20 13	04 44W	+16 26	Fe/ND×4	6-6
43457	HD 61412	07 34.0	+5 29	20 18	20 20	03 49W	+5 18	Fe/ND×4	6-6
43458	HD 88021/2	10 03.8	+20 49	20 32	23 39	04 39W	+20 27	Fe/ND×4	4-4
43459	HD 141458	15 44.1	+13 01	23 46	03 21	02 42W	+12 49	Fe/ND×4	6-6
43460	HD 161096	17 38.5	+4° 37'	03 24	03 36	01 02W	+4 35	Fe/ND×4	6-6
43460F1	Focus Test							Fe/—	7-7
43460F2	Focus Test							Fe/—	7-7
43461	HD161096	17 38.5	+4 37	03 48	3 56	01 22W	+4 35	Fe/ND	6-6

Spectr. Temp. +57°F ..... Dome Temp./Hum +57°F / 68% H Transparency Conditions Good to thinly cloudy 70

Focus 499 .....

Spectr. Temp. 53 °F ..... Dome Temp./Hum +47 °F / 100% H

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/– 15-15					BC	G12/.68	120μ	IIIa-F	B			cent sl Red
								IIa-O-e				
[illegible]	40/6	2"	1.9	A0 IV	BC	G12/.68	120μ	"	B	Asm Spec KK	Exp Meter [illegible] reversed	Fine
[illegible]	40/7	3"	0.8	F5 V	BC	G12/.68	120μ	IIa-OE	B	Std. Vel.	" " " " " reversed	Fine
[illegible]	800/180	5-7"	7.20	g G5 A+2	BC	G12/.68	150μ	IIa-OE	B	VB-Bln	T=+56°F	Fine.
[illegible]	800/200	2"-4"	6.80	A0	BC	G8/-.025	150μ	IIa-OE	A	SB-Bln	Set 498	
[illegible]	40/17	4	3.93	K2 III	BC	G8/-.025	150μ	IIa-OE	B	Std. Vel		Fine
[illegible]					"	"	"	"	B		T = 53°F	cent Red
[illegible]					BC	G12/.68	150μ	"	B		T = 53°F	cent sl Red
[illegible]	40/12		3.93	K2 III	"	"	"	"	A	Std Vel		v sl str

71

Date MAY 14-15 /79 Observers Rin-Tu

Emulsion Batches:
IIaD-p 12108-09059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43462	HD 138406	15h 26.8	+6[illegible]° 05	20 24	22:13	2h 04 E	+61° 46.8	Fe [illegible]x4	4-4-4
43462T	Spot Cal'n for 43462				15min @	D4 15V 3900	D3 4300	D2 4810	
43462T	Full Aperture shift test with decker coupler c with slight vigor					0h	+22°	Fe one/—	4-4

Spectr. Temp. 60°F ..... Dome Temp./Hum. 58°F / 85%H Transparency Conditions thin cloud 72

Focus 498 .....

Spectr. Temp. 53°F ..... Dome Temp./Hum. ..... / 94%H

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	800/77	1"-5"	6.79	AO	BC	G12/.68	120μ	IIaOE	B	Am-MR	cloud	slwk
									"				
[illegible]	[illegible]	but 120μ slit was especially firmly clamped to Collimator				BC	G12/.68	120μ	"	B		Full aperature with Decker Coupler	cent Blue 3μ
												↑ Fogged at end because of premature opening of spectrum [illegible]	
												IIaO should be OK.	

73

Date MAY 15/16 TUES/WED 79 Observers But - Tn

Emulsion Batches: HaO-e 12108 - 09.059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43463	HD 138406	15 26.8	+ 6205	23:23	00 30	00 16 W	+61 45	Fe/ND	4-8
43463T	Spot Calc for 43463				15min @ 15V	D4 3900	D3 4300 D2 4810		

Spectr. Temp. 154°F ..... Dome Temp./Hum. 49°F / 85% H Transparency Conditions .. very gusty & some cloud

Focus .. 500.5 .....

Spectr. Temp. ..... Dome Temp./Hum. ..../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/38	4-8	6.79	Am	BC	G12/.68	15μ	IIaO-e	B	Am MR	cloud *Push if possible	
							"				

15 [illegible] * MATT - Dec slow screw need [illegible] / done

Date May 16/17 Wed/Thurs Observers Bln - Bts

Emulsion Batches:
IIaOe 12108 - 09059 & 14059
IIIaJe 12108 - 10059 18 186
09802e 19098 - 08059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Sec
43464F	focus							Fe/-	7-6		
43464	HD97937	11 10 44	+13 23	20 16	23 08	03 13W	+12 57	Fe/ND4	4-4-4	200/[illegible]	
				23 24							
43465	HD 139892	15h 35.6	+36° 58'	23 39	01 40		+36 40	Fe/-	4-4-4	80/100	2
43465T	spot calib for	43464,66		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
43466	HD147835	16 19 06	+32 34	01 44	02 58		+32° 22'	Fe/ND4	4-4-4	400/60	2
43466T	spot calib for	43465		15min	D4 17.5V ① 3900	D4 15V ② 4300	D4 15V ③ 4810				
43467	HD163506 (89 Her)	17h 51.4m	+26° 04'	03 00	03 38	01 03W	+26° 02'	Fe/ND4	4-4-4	40/80	2
43468	HD161096	17 38.5	+04° 37'	03 41	03 47	01 25W	+04 33	Fe/ND4	4-4	40/	
43468F	focus							Fe/-	4-4		

Spectr. Temp. 56° Dome Temp./Hum. 53°F/65% Transparency Conditions Clear and Good 76

Focus 499 Seeing. Crummy [illegible]

Spectr. Temp. 49°F Dome Temp./Hum. 44°/80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120	IIaOe	A		56° 499	vsl red
200/35	2	6.49	A6n	BC	G12/.68	150μ	"	A	SB - Bln	there seems to be a plate chip in the IIaO exposed box	vsl str
						RS	0[illegible]e	B		53° 500½ (set for 51°)	
80/100	2-3	4.95	B7II	BC	G12/.68	150μ	IIIaJe	B	SB - Bln/Ly	Focus = 500	bubbles
400/60	2	6.18	A3V	BC	G12/.68	150μ	IIaOe	A	SB - Bln		
							IIIaJe			bubbles + uneven	
400/80	2	5.81	F2Ia	BC	G12/.68	150μ	IIaOe	B	Ceph-Fe		
40/		3.93	K2III	BC	G12/.68	150μ	IIa-OE	A	Std. Vel.	new box of plates	
				"	"	"	"	B		T= 49°F	

71

Date May 17/18 Thurs/Fri Observers KK-Bts-Es

Emulsion Batches:
7m 68° IIaOe 12108-14059
5m 68° IIIaJe 12108-10059
5m 68° IIIaF 23117-17059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seem
43469	HD 47105 (γGem)	06h 31m.9	+16° 29'	20h 18m	20h 54m	5h 40m W	+16° 28'	Fe/—	8-8-8	40/62	
43469F1	full aperture shift test							Fe/—	15-12		
43469T1	Grating illumination test α Boo										
T2	Spot plate		2m	D4 5450 Å	15v	should be 7v					
43470	HD 161096 (ρ Oph)	17h 38m.5	+04° 37'	00h 56m	01h 04m	-01h 13m	+04° 34'	Fe/ND4	5-5-5	100/43	
43471	"	"	"	01h 12m	01h 16m	-01h 02m	+04° 34'	Fe/ND4	5-5-5	100/11	
43472	"	"	"	01h 22m	01h 27m	-00h 51m	"	"	"	100/30	
43473	"	"	"	01h 35m	01h 42m	-00h 37m	"	"	"	100/30	
43474	"	"	"	01h 47m	01h 57m	-00h 20m	"	"	"	100/30	
43474F1	focus							Fe/—	20-20		
74F2	full aperture shift test					03h 00m W		Fe/—	10-10		
74F3	"					03h 00m E		Fe/—	10-10		
43475	HD 163506	17h 51m.4	+26° 04'	02 57	03 45	01h 14m W	+26° 02'	Fe/ND4	5	400/80	
43475T	spot calibration for 43475			15min 15V	① D4 3900	② D3 4300	③ D2 4810				
43475F	focus							Fe/—	5-5		

Spectr. Temp. 58° F Dome Temp./Hum. 54°/68% Transparency Conditions Haze 78

Focus 502

Spectr. Temp. 50° F Dome Temp./Hum. 45°/73%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/62	~5"	1.9	A0 IV	BC	G16/.7	RS	IIIaF	A	Asm Spec KIC	58° 502	comp lumpy
				"	"	"	"	B			v sl blue
						None	103aD				
							103aD				
00/43		39.3	K2 III	BC	G12/.68	120μ	IIaOe	A	std vel	52° 500	[illegible]
00/31		"	"	"	"	"	"	A	"		sl wk sl fuzzy
100/30		"	"	"	"	"	"	A	"		sl wk
100/30		"	"	"	"	"	"	A	"	51° 506	fuzzy
100/30		"	"	"	"	"	"	A	"	496	fine
				"	"	"	IIIaJe	A		50° 501	v sl red
				"	"	"	"	A			v sl blue
				"	"	"	"	A			v sl blue
100/80	5"	5.81	F2Ia	"	"	"	IIaOe	A	SB - Bln		fine
							IIaOe				v sl red
				"	"	"	"	A		50° 501	

Date May 18/19 Fri/Sat. Observers Bojetchko - Bts - Bln

7m 68°

Emulsion Batches: IIaOe 12108 - 14059/17059 17188 16184

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43476F	Focus							Fe/—	4-4
43476	HD 89449	10h 14m.3	+19° 59'	20 20	20 37	+01 46	19° 32'	Fe/ND4	4-4-4
43477	HD 141145 8	15h 44m.1	+13° 01'	20 53	22 02	-02 17	+12° 45'	Fe/ND4	4-4-4
43478	"	"	"	22 07	23 16	-01 04	"	Fe/ND4	4-4-4
43479	"	"	"	23 17	00 31	+00 12	"	Fe/ND4	4-4-4
43480	"	"	"	00 36	02 04	+01 44	"	Fe/ND4	4-4-4
43480T	spot calib for	43476-80		15V 15min	① 3900 04	② 4300 03	③ 4810 02		
43481	HD 141458	15h 44m.1	+13° 01'	02 06	03 43	+03 23	+12° 45'	Fe/ND4	4-4-4
43481T	spot calib for	43481-82		15V 15min	① 3900 04	② 4300 03	③ 4810 02		
43482	HD 161096	17h 38m.5	+4° 37'	03 51	04 04	+01 50	+4° 32'.5	Fe/ND4	4-4-4
43482F1	Focus							Fe/—	4-4
43482F2	Focus							Fe/—	4-4
43482F3	full aperture shift test							Fe/—	3-3

Spectr. Temp. 61°F ..... Dome Temp./Hum. 58°/69% Transparency Conditions Clear but hazy 80

Focus 498 .....

Spectr. Temp. ..... Dome Temp./Hum. 52°/85%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7				BC	G12/.68	150μ	IIa-OE	A		T=61°F Focus=498 v short arc in cen of stellar	misplaced dockor-?
200/35		5.3	F5V	BC	G12/.68	150μ	IIa-OE	A	Std. Vel.	BROKEN PLATE.	v sl str
400/60		6.8	A0	"	"	"	"	A	SB - Bln		fine
400/60		"	"	"	"	"	"	A	"		fine
400/63	2-3	"	"	"	"	"	"	B	"		v sl str
400/60	4	"	"	"	"	"	"	A	"	59° 498	fine
							"				
400/42	4-5	"	"	"	"	"	"	B	"	new box of plates	Fine
400/40		3.93	K2 III	"	"	"	"	A	std vel		fine
				"	G12/.68	150μ	II-OE	B		56° 499	good
				"	G12/.68	150μ	IIa-OE	A			v sl blue
				"	"	"	"	B			

81

Date May 19/20 Observers Ly - Bts

Emulsion Batches: 7m 68° IIaOe 12108 - 17059 17 176

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43483F	focus							Fe/-	4-4
43483	HD141458	15h 44m.1	+13° 01'	20 55	23:13	01 03E	+12° 47'	Fe/- Fe/ND4	4 -4
43483T	spot calib for	43483-87.		15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43484	HD175426 (δ' Lyr	18h 50.2	+36 51	23 27	00 20	-03 01E	+36 55	Fe/ND4	4-4-
43485	"	"	"	00 25	01 02	-02 19	"	Fe/ND4	4-4
43486	HD156681	17 13.9	+10 58	01 20	03 45	02 00W	+10° 52'	Fe/ND4	5-5
43487	HD161096	17 38.5	+04 37	03 53	04 03	+01 53	+04 33	Fe/ND4	5-8-8
43487F	focus							Fe/-	5-5

Spectr. Temp. 64° F Dome Temp./Hum. 60° / 95% Transparency Conditions Haze with scattered thin cloud

Focus 497

Spectr. Temp. ..... Dome Temp./Hum. .....

82

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150μ	IIaOe	A		64° 497	bow
400/60	3"	6.8	A0	BC	G12/.68	150μ	IIaOe	A	SB-Bln		v sl wk comp. str.
400/60		5.2	B3	"	"	"	"	B	SB-Ly	pause for cloud to pass	sl wk
400/60	2"	"	"	"	"	"	"	A	"		sl wk
400/85	4"	6.5	K4II	"	G8/-.025"	70μ/.3	IIaO	B	CaII-Ly	some cloud 61° 498	wk, sl. flex comp wk
400/	3"	3.9	K2III	"	"	120μ	"	A	St. Vol.	some cloud clouded out.	wk, comp v sharp
				"	"	"	"	B		60° 498	sl red

83

Date May 20/21 Observers Ly - Bls

Emulsion Batches:
7m 68° IIaOe 12108-17059/20059
18 161

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43488	HD 84441	09 40.2	+24° 14'	21:42	21:55	03 45W	+23 50	Fe/ND4	4-4-4
43489	HD 89449	10 14.3	+19 59	22:01	23:27	04 43W	+19 33	Fe/ND4	4-4-4
43490	HD 141458	15 44.1	+13 01	23:50	01:59	01 47W	(actual +22 43) +12 43	Fe/ND4	4-4-4
43490T	spot calib for	43488-	43490	15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43490F	focus							Fe/-	6-6

Spectr. Temp. 64° Dome Temp./Hum. ..... Transparency Conditions Poor → cloud.

Focus 497

Spectr. Temp. 62° Dome Temp./Hum. .....

84

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND4	4.4.4	100/30	5-6	3.8	GOpII	BC	Gr/.68	120μ	IIa-O	A	Ceph. Rm.	64° 497	fine
Fe/ND4	4.4.4	400/100	2-3	5.3	FSV	"	"	"	"	B	Std Vel.	double star just outside	fine
Fe/ND4	4.4.4	800/43	1-2	6.8	AO	"	"	"	"	A	SB - Bln.	moved & found δ off by 10°	wk
												previous 2 plates should be OK.	
[illegible]	[illegible]					"	"	"	"	B		error det. using dec circles vs 1 red	

cloud off & on gradually increasing ⇒ left on one point of slit

Clouded out.

62° 497

new box of plates (20059)

85

Date MAY 21/22 '79 ~~Sun-Mon~~ Mon-Tues Observers Bln : Bts

Emulsion Batches: IIaOe. 12108 - 20059 / 21059 17176

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43491F	Focus							Fe/-	6-6
43491	HD 141458	15h 44.1m	+12° 01'	22 13	02 26	02 18W	+12 47	Fe/ND4	6-6-6
43491T	spot calibration for	43491–		15min 15v	① 3900 (04)	② 4300 (03)	③ 4810 (02)		
43492	HD 163506 (89 Her)	17h 51.4m	+26° 04'	02 32	03 40	01 25W	+26° 03'	Fe/ND4	4-4-4
43493	HD 161096 (β Oph)	17h 38.5m	+4° 37'	03 44	03 53	×2 01 5W	04 33	Fe/ND4	6-6
43493F	Focus							Fe/-	5-5

Spectr. Temp. 56°F ..... Dome Temp./Hum. 52°F/88% Transparency Conditions clear

Focus 497 ..... bright aurora arc in the north

Spectr. Temp. 50°F ..... Dome Temp./Hum. 42°F/79% 86

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/-.025	150μ	IIa-OE	A		56° 497	vs/blue
400/90	5-6	6.80	A0	BC	G8/-.025	150μ	IIa-OE	A	SB-Blu		vs/wk s/gng
400/80	4	5.81	F2Ia	BC	G12/.68	150μ	IIaOe	B	Ceph-Fe	52° 501	crisp v Fine
40/14	6	3.93	K2III	BC	G12/.68	150μ	IIaOe	A	Std Vel	50° 501	Fe vs harp v Fine
				BC	G12/.68	150μ	IIa-OE	B		new box of plates 50° 501	cont Red

87

Engineering Stuff
Wed - Tues

Date MAY 23-24/79 Observers KK-Th

Emulsion Batches: Old IIIaJ

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43493T1	Grating alignment tests — tungsten lamp + diffuser								15s
T2	"		"						60s
T3	"		"						60s
T4	"		"						60s
T5	"		"						30s
T6	"		"						30
MAY 26									
43493F2	Focus Test					0 hr L		Fe/—	[illegible]
43493F3	Focus Test After adj of PHA tilt screws.				Blue end CCW to limit ≈ 30° Red end CW by ≈ 60°			"	[illegible]
F4	"	"		Repeat				"	25-25
T7	Full Aperture Shift Test To determine if Shift is on Comp or Stellar							"	5-[illegible]
T8	" "	Repeat							[illegible]
T9	Full Aperture without Coupler, but vigorously								15-15

Spectr. Temp. 59°F Dome Temp./Hum. ..... Transparency Conditions Rainy: no loss

Focus 498.5

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					G12/.68	200μ	IIaJ	B			
					G12/.68			B			
					G8/-.025			A			
					"			B			
					G43/.5			A			
					"			B			
				BC	G21.68	120μ	IIaJ	B	T=53°F Sec 500	cent +10μ	
				BC	"	"	"	A	" "	cent blue 0 → +14μ	
				"	"	"	"	A	" "	cent blue -4 → +5μ	
continuing the same exposure				"	"	"	"	B		sharp blue → red	-3.3μ
				"	"	"	"	B		but blue and very fuzzy	-3.3
				"	"	"	"	A		v. sharp lines	-3.5μ

89 Tests

Date MAY 27/79 Observers Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43493T10	Full Aperture without coupler & very gentle, but Comp point decker held in					0^h	+17°	Fel-	12-12
43493T11	Same but with adjusted PHA						"	Fel-	2-12
43493T12	Full Aperture without couple & very gentle			Stellar 1st because it seems more gentle			+45°	Fel-	12-12
43493T13	Same but with PHA						"	Fel-	"
43493T14	Full Aperture with couple, Normal force Comp 1st						"	"	"
43493T15	Repeat						"	"	"
T16	Full Aperture with coupler, Normal force Comp 1st							Fel-	20-20
T17	Repeat							Fel-	20-20
F5	Focus Test	after CW blue adj		90°				Fel-	30-30
F6	" "							Fel-	30-30

Prime Mirror alluminized MAY 28/79

Spectr. Temp. +54°F ..... Dome Temp./Hum. ..... Transparency Conditions ..... 90 ...

Focus ....497.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G121/68	150μ	IIIa-J	B		cont shift	0μ
				"	"	"	"	A		shift	0μ
				"	"	"	IIIa-J-e	B		shift 0 in Red +	2.0μ
				"	"	"	"	A		↑ maybe fogged shift 0 in Red +	2.0μ
				"	"	"	IIa-J-e	B	Arc adjusted as previous illuminat. zero adjust	now illum more south??	-2.5μ
				"	"	"	"	A		"	-2.5μ
				"	"	70μ	"	B			-4.0μ
				"	"	"	"	A			-3.0μ
				"	"	"	"	A			
				"	"	"	"	B			

91

Date MAY 29 Observers Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43493 F7	Focus Test					0^h	$+10°$	Fe/ND	20-20
43493 T18	Full Aperture Shift Test with Coupler				Stell 1st	"	"	"	"
T19	" "	" "	"	"	Comp 1st	"	"	"	"
T20	" "	" "	"	"	Comp 1st but with edge window close to slit			"	"
T22	" "	" "	without	coupler	Stell 1st	0^h	$+10°$	Fe/—	15-15
T21	" "	" "	"	"	Comp 1st	0^h	"	"	15-15

Spectr. Temp.
Focus 49
Spectr. Temp.

Exp. Mtr | Seeing

Spectr. Temp. +57°F Dome Temp./Hum. 57°F / 80% Transparency Conditions 92

Focus 496

Spectr. Temp. ..... Dome Temp./Hum. ..... / .....

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND	20-20					BC	G121.68	120μ	IIaF	B			OK
"	"									B		centr ≈	-3.3μ
"	"									B		centr ≈	-2.5μ
"	"									B		gradation -1 → -3 [illegible] cent	≈ -2.5
Fe	15V								IIIaJe	B		centr	0 or +10μ
	15V								"	B		centr	-2μ

93 Wed-Thurs #1

Date May 30/31 Observers Tn - Myd

Emulsion Batches:
7m 68° IIaO-e 12108 21059
4m 68° 098-02e 19098 - 08059 43177

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43494F	Focus Test					0	+37	Fe/-	5-5
43494	α Boo HD 124897	14h 11.1	+19°42	20:27	20:28	1 33 E	+19° 13	Fe/ND	7-7
43495	HR 5110 HD 118216	13 30.3	+37°42	20:38	20:43	0 36 E	+37° 13	Fe/ND	4-4-4
43496	"	"	"	20:56	21:07	0 13 E	"	Ne/- Fe/ND	8-8-8 16
43496T	Spot Calc for 43496, 43501				15 min @	15V D3 4810	7V D1 Hα 7V D2 5450		
43497	HD 115043	13 09.5	+57°14	21:18	21 59	1h 00 W	+56 45	Fe/ND	4-4-4
43497T	Spot Calc for 43494-95, 97-43500, 02-08.				15 min @	15V D4 3900	D3 4300	D2 4810	
43498	β Com HD 114710	13 07.2	+28°23	22:07	22:11	1h 14 W	+27°55	Fe/ND	6-6
43499	η Boo HD 121370	13h 49.9	+18°54	22 16	22 18	0 39 W	+18 27	Fe/ND	6-6
43500	39 Ser HD 142267	15h 48.3	+13°31	22 27	22 59	0 39 E	+13 12	"	4-4-4
43501	HR 5110 HD 118216	13h 30.3	+37°42	23 07	23 19	2h 00 W	+37 15	Fe/ND Ne/-	5-5.5 5-5-5
43502	" "	"	"	23 24	23 31	2 11 W	"	Fe/ND	4-4-4
43503	ρ CrB HD 143761	15h 57.2	+33°36	23 36	23 49	0 3 W	+33°18	"	4-4-4
43504	HD 153344	16 53.9	+62°16	23 56	00 43	0 3 W	+62°02	"	4-4-4
43505	72 Her HD 157214	17 16.9	+32°36	00 48	00 58	0 7 E	+32°25	"	4-4-4

Spectr. Temp. 61°F ..... Dome Temp./Hum. 59°F / 70% Transparency Conditions Sl. Hazy 94

Focus ..... 496 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... / .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G21/68	150μ	IIaO-e	B		cont sl Red	
40/17	2"	1.2	K2III	BC	"	120μ	IIaO-e	B	Std Vel.		Fine
400/92	1-2"	5.3	F2	BC	"	120μ	IIaOe	B	Fgi-Field Star		
200/76	"	"	"	BC	G16/.7	120μ	098-02E	B	"		sl wk
							"				
400/112	2"	7.3	G0	BC	G12/.68	120μ	IIa-Oe	B	Solar-Type		sl wk ~~Fine~~
							"				
40/11	2-3"	4.8	G0	BC	G12/.68	120μ	"	B	Solar-Type		Fine
40/12	"	3.3	G0	"	"	"	"	B	"		fine
400/112	2"	6.7	G2	"	"	"	"	B	"		"
40/15	2-3"	5.3	F2	BC	G16/.7	120μ	098-02e	B	Fgi-Field Star		sl wk
40/10	"	"	"	"	G12/.68	120μ	IIaOe	B	" " "	T=60°F	Fine
400/112	"	6.0	G2II	"	"	"	"	B	Solar Type		Fine
400/114	"	7.8	G5	"	"	"	"	B	"	47 minutes - Wow!	sl wk
200/57	"	6.0	G2I	"	"	"	"	B	"		Fine
										Cont →	

95 Page #2

Date May 30/31 Observers Myd - Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43506	HR 7569 HD 187423	19 47.4	+11°23	0105	01 34	2h 2 E	+11°31	Fe/ND	4-4-4
43507	HD 191854	20 06.2	+43°39	0140	02 51	1 03 E	+43°48	"	4-4-4
43508	16 CygB HD 186427	19 39.2	+50°18	02 59	03 19	06 E	+50 24	"	4-4-4

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ....96...

Focus ....496.....

Spectr. Temp. ....57°F..... Dome Temp./Hum 55°F / H-80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/57	1-2"	6.7	G2	EC	G12/.68	120μ	IIa-Oe	B	Solar-Types		
400/112	1"-2"	7.9	G5	"	"	"	"	"	"		v slwk
400/119	"	6.9	G5	"	"	"	"	"	"		Fine

17

Date MAY 31/JUNE 1 THUR/FRI 79 Observers B. Wt. Tn.

7m 68s
5m 68s (should know here 4m)

Emulsion Batches:
IIaO-e 12108 - 21059
O-8-2e 17088 - 28039 48192

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43509	HD118216	13h 39.3	+37 42	20 31	20 45	0 31 E	+37 13	Fe AND	4-4-4
43510	"	"	"	20 49	21 15	0 01 E	"	Fe AND Nel—	4-4-4 4-4-4
43510T	Spot Cal. for 43510, 13.			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450		
43511	HD 138406	15 26.8	+62 05	21 26	22 22	0 49E	+61 43	Fe/ND	4-4-4
43511T	Spot Cals for 43509, 11, 12, 14-19.			5 min @ 15V		D4 3900	D3 4300	D2 4810	
43512	HD 137182	15 19.5	+10 54	22 26	23 47	+0043W	+10 34	Fe/	4-4-4
43513	HD 118216	13 39.3	+37 42	23 53	0 46	3 31W	+37 14	Fe AND Nel—	4-4-4 4-4-4
43514	"	"	"	0 49	0 58	3 43W	"	Fe/ND	4-4-4
43515	HD 156547	17 13.1	+26 00	01 02	01 33	0036W	+25 49	Fe/	4-4-4
43516	HD 157702	17 22.9	+18 53	01 37	02 23	0119W	+18 49	"	5-5-5
43517	HD 176003	18 53.0+ 18 55.4	+44 05	02 27	02 53	0017W	+44 01	"	5-5-5
43518	HD 176798	18 56.9	+43 07	03 01	03 32	0052W	+43 08	"	5-5-5
43519	HD 186791	19 41.5	+10 22	03 36	03 38	0012W	+10 30	"	7-
F1	Focus Test	after PH	Adj					Fe/—	7-7
F2	" "							"	"
I	Full Aperture	Shift Test	+ with coupler					Nel—	17-17

Spectr. Temp. +63°F ..... Dome Temp./Hum 62°F / 70% Transparency Conditions . Very hazy - cloudy 98

Focus ..... 496 .....

Spectr. Temp. +60°F ..... Dome Temp./Hum 56°F / 72%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/99	3"	5.3	F2 IV	BC	G12/.68	120μ	IIaO E	B	Fqi FLARE STAR	violet emission wing on Hα	ok red [illegible]
400/200	2-3	"	"	BC	G16/.7	"	098-02E	B	"		
							"			high fog level	
400/72	2"	6.79	Am	BC	G12/.68	120μ	IIaO-E	B	Am MR	Thru cloud	uneven
							"				
400/67	2"	7.12	Am	BC	G12/.68	120μ	"	B	Am MR	cloud	v sl wk
400/200	1"-3"	5.3	F2 IV		G16/.7	"	098-02E	B	Fqi FLARE STAR	thin cloud / clear last half	
400/100	1"	"	"	"	G12/.68	"	IIaO-e	B	"	clear	v sl str
400/70	2"	7.04	A1	"	"	"	"	B	Am MR	some cloud	fine
400/73	3"	7.48	A0	"	"	"	"	B	Am MR		fine
400/75	3"	7.00	A1	"	"	"	"	B	Am MR	60°F	fine
400/79		7.27	A3	"	"	"	"	B	"		fine
40/15		4.15	K3 II	"	"	"	"	B	Std Vel		fine
				"	"	"	098-[illegible]	A		red ok, blue very red	
				"	"	"	"	B			v sl red
				"	"	"	"			.68 tilt no good for the comp.	Cent sl Blue

99

Date Jun 1 Observers Bts

Emulsion Batches: IIaF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seeing
43519F3	Full Aperture Shift Test					0^h	+25°	Fe/ND4	20-20		
19F4	"					0^h	−10°	"	20-20		
19F5	"					0^h	+50°	"	20-20		
19F6	"					4^h E	+25°	"	20-20		
19F7	"					4^h W	+25°	"	20-20		
19F8	"					0^h	+25°	"	20-20		

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. ...62°..... Dome Temp./Hum. ..... Transparency Conditions .....100...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/NO4	20-30					BC	G12/168	120μ	IIaF	B		62° 497½	
	30-2					"	"	"	"	"			
	2-2					"	"	"	"	"			
	2-6					"	"	"	"	"			
	2-0					"	"	"	"	"			
	2-0					"	"	"	"	"			

101

Fri Sat

Date June 1-2 1979 Observers Tn-Boj

Emulsion Batches:
098-02E 20049 - 01069
IIa0-e 12108 - 31059
IIIa1-e 12108 - 17059

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43520	HD 124897	14h 11m.1	19° 42'	20 32	20 34	01 19 E	+19° 16.6	Fe/ND	7-7
43520T	Spot Calc for 43520-21,24				15 min @ 4810	15V D3 7V D1 Hα	7V D2 5450		
43521	HD 118216	13 30.3	+37 42	20 43	20 57	0 15 E	+37 17	Fe/ND Ne/-	7-7 7-7
43522	"	"	"	21 09	21 14	0 04 W	"	Fe/ND	7-7
43522T	Spot Calc for 43522-23,25				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43523	HD 135681	15 11 15	-12° 40	21 36	22 46	0 7 E	-12 57	Fe/ND	4-4
43524	HD 118216	13 30.3	+37 42	22 56	23 09	01 57 W	+37 17	Fe/ND	7-7
43525	"	"	"	23 16	23 45	02 34 W	"	Fe/ND Ne/-	7-7 7-7
43526	HD 141513	15h 44m.1	-03° 07'	00 07	0 30	1 05 W	-3 22	Fe/-	8-8
43526T	Spot Calc for 43526				15 min @ 17.5V D4 3900	15V D4 4300	15V D4 4810		
43526F1	Focus Test							Fe/-	18-8
43526T1	Full Aperture Shift test with coupler, prob done roughly					0h HrL	-3°	Ne/-	38-10
	* Note 098s IIIa1s IIaF tests Developed					5 min @ 68°F in D19			

Spectr. Temp. 67°F ..... Dome Temp./Hum. +66°F/70% Transparency Conditions .. some haze & thin cloud.

Focus ..... 497.5 .....

Spectr. Temp. 66°F ..... Dome Temp./Hum. +61°F/88%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/18		4.3	M1 III	BC	G16/.7	120μ	098-02E	B	Std Vel		3 star uncorr
							"				
40/20	1"	5.3	F2 IV	BC	G16/.7	120μ	"	B	Fgi Flare Star		Fine
40/10	1"-2"	"	"	BC	G12/.68	"	IIa-O-e	B	"		fine
							"				
500/91	1"-2"	7-7.4	A2	BC	G12/.68	120μ	"	B	Ec/Bin Bln	Too Slow getting hazy down here	wk
80/20	2"	5.3	F2 IV	"	"	"	"	B	Fgi Flare	66°F	vs/wk
80/40	1"-3"-1"	"	"	"	G16/.7	"	098-02E	B	"	*last Fe failed hazy looking for missing screw	Fine
80/33	2"	3.50	A0 V	"	G8/.025	"	IIIa-J-e	B	S B Bln	Focus 493 Saved to check [illegible] probably vv wk	vv wk
							"				
				BC	G8/.025	120μ	IIa F	B	T=66°F	Set 493 sl Flat	+5.5
				"	G16/.7	"	IIa F	A		cont'd	-3μ
June 2											

103

Sun-Mon

Date June 3-4 Observers Bln-Tn

Emulsion Batches:
5m 68° D98-02E 20049-01069
7m 68° Tube 12108-01069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43527F	Focus					0 40W	+37°	No/-	17-17
43527	HD118216	13h 30m.3	+37°42	20 32	20 46	0 18E	+37° 17'	No/- Fe/ND	7-7 7-7
43528	"	"	"	20 50	21 04	00 01W	"	Fe/ND	7-7
43528T	Spot Cal. for 43528-30,32				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43529	HD117555	13 26.1	+24 44	21 11	23 27	2 27W	+24 20	Fe/ND	4-4-4
43529T	Spot Cal. for 43527,31				15 min @	15V D3 4810	7V D1 H2	7V D2 5[illegible]	
43530	HDE226868	19 54.6	+34 56	23 34	01 19	02 08E	+35 08	Fe/ND	4-4-4
43531	HDE226868	19 54.6	+34 56	01 23	02 55	00 31E	+35 08	Ne/- Fe/ND	3-3-3 4-3-3
43532	HD157482	17 18.5	+40 04	03 03	03 14	02 24W	+40 00	Fe/ND	4-4

Spectr. Temp. 71°F ..... Dome Temp./Hum. 69°F/67% .. Transparency Conditions v. s[illegible] 104

Focus ....494.....

Spectr. Temp. 66°F ..... Dome Temp./Hum. 61°F/76%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	120μ	IIa-F	B		71°F F=494	[illegible]
80/50	3"	V=4.95	F2IV	BC	G16/.7	120μ	098 E	B	RS CVn-Fqi		[illegible]
80/48	3"	"	"	BC	G12/.68	"	IIa-e	B	"		[illegible]
							"				
800/250	3"-1"	8.7-8.83	g6e	BC	G12/.68	150μ	"	B	Ed Bln-Bln		[illegible]
							098E				
800/151	2"-1"	9.74	09.7Iab	BC	G12/.68	200μ	IIa-e	B	SB Bln	T=+69°F	[illegible]
800/150	1"-3"	V=8.85 9.74	09.7Iab	BC	G16/.7	200μ	098E	B	SB-Bln		[illegible]
200/60	2	6.22	dF8	"	G12/.68	150μ	IIa-e	B	SB Bln		[illegible]

10'0 Tau-Boot

Date June 5/6 Observers Ray-T.

Emulsion Batches:
7m 68 IIa.O.C. 12108-01069
5m 68 098-02E 20049-01069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43532 F	Focus					-0h 35m	+37°	Fe/—	18-18
43532T1	Full Aperture Shift Test (no coupler) Dexter held up during both comps					"	"	Fe/—	"
43532T2	" "	"	" Dexter with lowered force			"	"	Fe/—	"
43533	HD118216	13h 30.3	+37° 42	20h 37	2057	0 01W	+37 16	Fe/ND 4	7-7
43534	"	"	"	21h 01	21h 30	0 35E	"	Fe/ND Neu—	7-7 7-7
43535	HD163506 = 89 Her	17h 51.4	+26° 4	21h 48m	22h 30	2 47E	+26° 01	Fe/ND	4-4-4
43536T	Spot Calib for 43533,35—41.			15min @ 15V	D4 3900	D3 4300	D2 4810		
43536	HD161096	17h 38.5	+4° 37	22h 34	22h 40	0h 23E	+4° 33	Fe/ND 4	2-6
43537	HD186928 = 59 Cyg	19h 40.5	+3° 21	23h 00	00h 04	03h 01E	+29° 11	Fe/ND	3 3
43537T	Strip Calib	for 43534						Fe/ND 4	
43538	HD190583	19h 12.0	+27° 75	00h 14	01h 57	0h 39E	+27° 51	Fe/ND	4-4-4
43539	HD203156	21h 15.9	+37° 49	02h 04	03 11	1h 28E	+38 06	Fe/ND	4-4-4
43540	~~HD204367~~ HD18[illegible]791	19h 41.[illegible]	+10° 22	03 16	03 20	0 14W	+10° 31	"	7-6
43541	"	"	"	03h 23	03 24	0 19W	"	"	4-4

Spectr. Temp. ...65°F..... Dome Temp./Hum. 58°F / 85% Transparency Conditions ..Sem. cloudy.....

Focus ....494.....

Spectr. Temp. ..57°F..... Dome Temp./Hum. 52°F / 97%.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	I aF	B		65°F F=[illegible] ~~-3.8~~	v sl blue?
				"	"	"	"	A		" " -3.8	v sl blue
prob more ↓ force then coupler exerts.				"	"	"	"	B		-3.5	v sl blue
80/ 40	3	5.3	F2IV	"	"	120μ	IIaO-e	B	Fgi RSCV6		~~[illegible]~~ sl str.
80/ 50	3-4	"	"	"	G16/.7	120μ	098-00E	B	"		comp sl str
80/ 28		5.8	F2II	"	G12/.68	120μ	IIaO-e	B	Ceph/Evans		fine
							"				
40/ 20	4	3.93	K2III	"	"	120μ	IIaO-e	B	Std vel	IF [illegible] #35, [illegible]	v sl str
800/ 130	3-5	6.8-7.7	F0-e1	"	"	200μ	IIaO-e	B	Ceph/Evans	cloud 61°F F=496	fine comp sl wk
							098-00E				
400/ 131?	3-4	6.2	F2I-II	"	"	120μ	IIaOE	B	Ceph/Evans	cloud / Exp meter unreliable for this Exposure.	v sl str
400/ 133	3"	5.9	F2	"	"	120μ	IIaO-e	B	Ceph/Evans		v sl str
40/ 19		4.15	K3II	"	"	120μ	"	B	std vel		fine
40/ 9		"	"	"	"	200μ	"	B	"		v sl str contamination?

107

Date June 6/7 Observers KK-Es-Ri-Bts

7m IIaOe
Emulsion Batches:
68°F 4½ { IIaF
IIIaJa
IIIaFe

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Sec
43541F	Full aperture shift test					0h 17m	+19 19	Fe/–	18-18		
43541F2	"					"	"	Fe/–	15-15		
43542	HD 124897	14h 11.1m	+19 42	00 18	00 21	2 48W	+19 18	Fe/–	6 8	40/44	
43543	"	"	"	00 40	00 45	3 12W		Fe/–	7-6-6	40/76	
43F1	Full aperture shift test							Fe/–	9-9		
43F2	"							Fe/–	15-15		
43F3	"							Fe/–	15-15		
43544	HD 165374	18h 00m 30	+16° 55'	01 46	02 28	+01 07W	+16 56	Fe/ND4	4-4-4	400/63	2
44F	focus							Fe/–	4-4		

Spectr. Temp. ..62°..... Dome Temp./Hum. ..... Transparency Conditions ..Hazy.....108..

Focus .....497½.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe - 8-8					BC	GR/.68	120μ	IIaF	B		62° 498 No comparison discarded	
Fe/- 15-5					BC	GR/.68	150	"	B		-broken- 62° 497½	"
Fe/- [illegible]	40/44				"	"	"	IIIaE	B		prob. no comp due to decker placement prob	
Fe/- [illegible]	40/76				"	"	"	"	B			
Fe/- [illegible]					"	"	150	"	B			[illegible]
Fe/- [illegible]					"	"	150	IIIaF	B			[illegible]
Fe/- 15-3					"	"	120	"	B			[illegible]
Fe/[illegible]	400/63	2"	7.2	gM3	"	"	150μ	IIaOe	B		some cloud / clouded out	
Fe/- [illegible]					"	"	150μ	"	B		60° 498	[illegible]

109

Date June 8/9 Observers Bajetchko - Bits

Emulsion Batches: 4" 72° IIaF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43544F2	Full Aperture Shift Test							Fe/–	15-15
44F3	"							Fe/–	15-15
44F4	"							"	"
44F5T								Fe/–	15-15
	June 11 - 1K	Tangent screw on 150μ turned in ½ turn to allow helical clamps to seat							
44F6	focus test – 63° F = 497							Fe/–	18-18
44T1	Full aperture, comp. 1st	normal pull						Fe/–	10-10
44T2	" " , comp 2nd	" "						Fe/–	10-10
44F7	focus test							Fe/–	10-10

Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mtr. Seeing

Spectr. Temp. 74° Dome Temp./Hum. ..... Transparency Conditions 110

Focus 494

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150μ	IIaF	B		broken 74° 494	[illegible]
				"	"	"	"	"		vigorous tug on decker	[illegible]
				"	"	"	"	"		broken. marked HHF2a	[illegible]
				"	"	250	"	"			
											St-Comp
				BC	G12/.68	150μ	IIaF	B			+10.8μ
} av. misfiring				"	"	"	"	"			-1.6±.4
				"	"	"	"	"			-0.8±.4
				"	G16B'/4	"	"	"			-2.2 [illegible]

111

Date June 11/12 Mon/Tues Observers But - Bts

Emulsion Batches: 7m 68° IIaOe 12108 - 07069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43545F	focus.							Fe/	4-4
43545	HD138406	15h 26.8m	+62° 05'	20 44	21 31	-00 47E	+61° 47'	Fe/NP4	4-4-4
43546	HD 137182	15 19.5	+10 54	21 43	23 35	+01 14W	+10° 39	"	4-4-4
43547	HD 156547	17 13.1	+26 00	23 40	01 01	+00 47W	+25 55	"	4-4-4
43547T ✓	spot cal for	43545 -	43548	15 min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43548	HD 176003	18 53.0	+44° 05'	01 05	02 22	+00 30W	+44 13	FE/NP4	4-4-4
48F1	FOCUS TEST							FE/—	4-4
48T1	FULL APERTURE							FE/—	10-10

Spectr. Temp. 58° Dome Temp./Hum. 53°/69% Transparency Conditions Clear 112

Focus 499

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks		Quality
				BC	GR/1.68	120μ	IIaOe	B		58°	499	red
400/75	3-5	6.79	A0	"	"	"	"	"	Am - MR			fair
400/80	"	7.19	A0	"	"	"	"	A	Am MR			poor focus
400/80	5	7.09	A1	"	"	"	"	B	Am MR	54°	500	focus sl. poor foc
400/75	3-5	7.00	A1	BC	GR/1.68	120μ	IIaOE	A	Am MR			focus poor
				"		"	"	B		52°	500	sl red
				"	"	150	"	B		"		

113

Date 12/13 June '79 Tue/Wed Observers Bln - Bts

Emulsion Batches: IIa-OE 12108-07069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43549F	Focus							Fe/-	4-4
43549 ✓	HD117555	13h 26m.1	+24° 44'	20h 48m	23h 44m	+03h 21m	+24 23	Fe/ND4	4-4-4
43549T	spot calib for	43549-51		15V 15min	D4 ① 3900	D3 ② 4300	D4 ③ 4810		
43550	HDE226868	19H 54m.6	+34° 56'	23h 51	03 20	00 30W	+35° 08	Fe/ND4	4-4-4
43551	HD186791	19h 41.5m	+10° 22'	03 24	03 27	00 49	+10° 33'	Fe/ND4	4-8
43551F	Focus							Fe/-	4
	June 13 - KK								
43551T1	Full aperture	after 0.5mm CCW rotation			coupler used			Fe/-	5-5
T2	"	no coupler, comp. 1ST						"	"
T3	"	" , stellar 1st						"	"
T2	focus test							Fe/-	15.15
T4	Full aperture							Fe/-	5 5

Spectr. Temp. 58°F ..... Dome Temp./Hum. 56°F / 70% Transparency Conditions Excellent ..... 114...

Focus ..... 498 .....

Spectr. Temp. 57° ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIa-OE	A		58° 498 Tilt 628 Rel 13	cent V. red
800/330	3-4	8.7 -8.83	gGe	BC	"	200μ	"	A	Sp. Bin-Bln		
								B			
800/205	5	9.74	09.7Iab	BC	G12/.68	200μ	IIa-OE	B	Sp Bin-Bln	56° 500	
40/17	3	4.15	K3III	"	"	120μ	"	A	Std. Vel.		focus!
				BC	G12/.68	120μ	IIa-OE	B		54° 500 Flat +152μ	cent red
580	F = 497			BC	G12/.68	150μ	IIaF	B		58° 497	-2.6
				"	"	"	"	"			-0.3
				"	"	"	"	"			-0.7
				"	"	"	"	"		Blue end +24 Red end +10μ	cent sl. red
				"	"	250μ	"	"			-3.3

115

Date 13/14 June '79 [illegible] Observers [illegible]

Emulsion Batches: Tab. 12108 – 12069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seem
43552 F	[illegible]					00h 14W	+30° 41	Fe/–	15-15		
43552	HD130948	19h 45.8	+24° 00	20h 37	21h 05	0h 35E	+24° 00	Fe [illegible]	4-4-4	80/[illegible]	[illegible]
43553	HD[illegible]	17h 51.4	+26° 4	21h 12	21 34	3 11E	+26 05	Fe [illegible]	4-4-4	80/[illegible]	
43554	HD161096	17h 38.5	+4° 37	21h 40	21h 42	2 49E	+4 36	Fe MDx4	4-8	40/23	
43555	HD180583	19h 12.0	+27° 45	21h 49	22h 25	3 40E	+27° 55	Fe MDx4	4-4-4	[illegible]	
43555T	[illegible] 43552-58.			15V	15 min	D4 3900	D3 4300	D1 4[illegible]			
43556	HD[illegible]	19h 40.8	+29° 01	22h 39	00h 50	01h 43E	+29 16	Fe/MD	4-4-4	[illegible]	
43556 F	Focus Test					01h 20E	+29 15	Fe/–	15-15		
43557	HD 195295	20h 25.3	+30° 2	01h 50	02h 02	1h 15E	+30° 18	Fe MDx4	4-8	40/[illegible]	
43558	HD 203156	[illegible]	+37° [illegible]	2h 06	03h 13	0h 54E	+38° 09	Fe MDx4	4-4-4	80/[illegible]	

Spectr. Temp. 63°F ..... Dome Temp./Hum. +60°F / 62% Transparency Conditions ... Fine v. sl haze 116

Focus ..... 494 .....

Spectr. Temp. 59 °F ..... Dome Temp./Hum. +54°F / 73%.

blue end +16u
red end -3u

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					5C	G12/.65	120μ	IIaF	B		63°F Sl gradient focus = 494	cent +5.2
[illegible]	80/40	1-2"	5.92	dG2	"	"	"	IIaO-e	B	kk		fine
[illegible]	80/40	"	5.82	F2Ia	"	"	120μ	IIaO-e	B	Ceph/Evans		
[illegible]	40/23	"	3.93	K2III	"	"	"	"	B	Std vel		
[illegible]	80/46	"	6.2	F6I-IIa	"	"	"	"	B	Ceph/Evans		fine
								"				
[illegible]	450/237	"	6.8-7.7	F0-G1	"	"	"	"	B	Ceph/Evans	cloud	vsl str
[illegible]					"	"	"	IIaF	B	Set 494 T=62°F	blue end +20 red end 0	big gradient ??
[illegible]	40/34	"	4.02	F5II	"	"	"	IIaOe	B	Ceph/Evans		strong
[illegible]	80/81		5.89	F2	"	"	"	"	B	Ceph/Evans		sl str.

117 II Eng Night too

Date 1979 June 14/15 Thur/Fri Observers KK-Th

Emulsion Batches:
Twice 06069 - 12108
Ilford 12069 - 12108

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43559F1	Focus test	0 HA	+25°				+25°	Fe/—	15-15
T1	Full aperture							Fe/—	15-15
F2	Focus test							Fe/—	15-15
43559	HD121370	13 49.9	+18 54	20 51	21 20	0 40W	+18 30	Fe/—	7-7-7
43559T2	Spot Calib for	43559, 63			15min @	17.5V D4 3900	15V D4 4300	15V D4 4810	
43560	HD146051	16 09.1	−3° 26'	21 25	21 37	1 19E		Fe/ND	6-6-6
43561	HD122742	13 58.6	+11 16	21 45	22 59	2 12W	+13 53	Fe/ND	4-4-4
43562	HD137909	15 23.7	+29 27	23 07	23 17	1 05W	+25 12	"	6-6-6
Spectral flute	"	"	"	23 35	1/25s	Wrich			
"	" Vega			23 45	1/25s				
43563	HD159561	17 30.3	+12 38	23 52	00 00	0 19E		Fe/—	6-6-6
43564	HD161096	17 38.5	+4 37	00 04	00 09	0 19E		Fe/ND	6-6
43564T1	Spot Calib	for 43560-62, 64		−67.	15min @	15V D4 3900	D3 4300	D2 4810	
43564T2	Full Aperture	shift test	with	coupler,	normal	1 10W	+36°	Fe/—	15-15
43564T3	" "	"	"	"	"	1 17W	"	Fe/—	15-15
43564F	Focus Test				"	1 26W	"	Fe/—	15-15

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr	Secs
40/70	
40/17	
80/12	
80/39	
40/67	
40/131	

Spectr. Temp. 68°F Dome Temp./Hum. 68°F/H=80% Transparency Conditions streaks a hazy 118

Focus 491

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	G12/.68	RS	IIaF	B			ok
[illegible]	[illegible]					"	"	"	IIIaJ	B			
[illegible]	[illegible]					"	"	150μ	"	B		blue end +22 red end 0	big gradient v sl red
[illegible]	[illegible]	40/70	1"-2"	2.8	G0	"	"	70μ	"	B	Asm Spec/KK		blue poor red v. fine!
									"				
[illegible]	[illegible]	40/17	3"	4.30	M1 III	BC	G12/.68	70μ	IIaOe	B	Std Vel		sl wk
[illegible]	[illegible]	200/72	2"	7.0	G8V	BC	G12/.68	150μ	IIaO-e	B	Asm Spec/KK	[illegible]	fine
"	[illegible]	80/39	2 3	3.93	F0p	"	"	70μ	"	B	"		v sl str
													sl wk
													sl str
[illegible]	[illegible]	40/67	2"-3"	2.2	A5 III	BC	G12/.68	150μ	IIIaJc	B	Asm Spec/KK		flex?
[illegible]	[illegible]	40/21	"	3.93	K2 III	"	"	"	IIaOe	"	Std vel		fine
									"				
[illegible]	[illegible]					RC	G12/.68	150μ	IIaF	B	Note, RC was very difficult to unclamp; much tighter clamped		ghosts?
[illegible]	[illegible]					"	"	120μ	"	B	then BC.		"
[illegible]	[illegible]					"	"	"	"	B	Set 491 T=68°F	over →	v red.

119 #2

Date ..... Observers ...Tn.....

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43565	HD 161096	17 38.5	+ 4 37	00 46	00 51	0 23W		Fe/ND	6-6
43566	HD 180583	19 12.0	+27 45	01 17	02 18	0 18W	+27 54	Fe/ND	4-4-4
43567	HD 203156	21 15.4	+ 37 49	02 25	03 38	0 26E	+38 10	"	4-4-4
43567 F	Focus							Fe/-	6-6

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ....sl. Hazy.....120..

Focus .....491.....

Spectr. Temp. ..+67 °F..... Dome Temp./Hum +63 °F / H=90%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	40/19	3-4'	3.93	K2III	RC	G121.62	150μ	IIa-D-e	B	std vel	* broken < 2' off [illegible]	doubled
[illegible]	[illegible]	400/190	2"	6.2	F6I-IIb	RC	"	120μ	"	B	Ceph-Rm		v sl str
"	[illegible]	80/50	3-5"	5.89	F2	"	"	"	"	B	"		v sl str
Fet	[illegible]								098	B			sl.red

* There is an extra plate in Exp [illegible] [illegible] #65, prob. plank, but if [illegible] [illegible] [illegible] an immediate [illegible] of the broken plate.

121

Date 1979 June 15-16 Observers Raj - Th

Emulsion Batches:
IIaO-E 14096 - 12108
IIIaJ-E 06096 - 12108

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43568F	Focus Test							Fe/—	15-15
43568	HD 112028	12 48.3	+83 58	21 03	21 33	2 02 W	+83 32	Fe/ND	4-4-4
43568T	Spot Calib for	43568, 70-71.			15min @15V	D4 3900 D3 4300	D2 4810		
43569	HD 141513	15 44.4	-3 07	21 47	22 32	0 01 W	-3 23	Fe/—	6-6-6
43569T	Spot Calib for	43569			17.5V D4 3900	15V D4 4300	15V D4 4810		
43570	HD 147835	16 19.1	+32 34	22 52	23 42	0 38 W	+32 21	Fe/ND	4-4-4
43571	HDE 226868	19 54.6	+34 56	23 54	02 16	-00 22E	+35 07	"	4-4-4
43571F	Focus Test							Fe/—	8-8

Spectr. Temp.
Focus 4
Spectr. Temp.

Exp. Mtr.	Sec
80/20	
80/153	
40/110	
80/38	

Spectr. Temp. +77°F ..... Dome Temp./Hum. +75°F / H=70% Transparency Conditions ..hazy..... 122

Focus .....484.....

Spectr. Temp. +74°F ..... Dome Temp./Hum. +70° / H=85%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/–	15-[illegible]					BC	G121·68	120μ	098	B		blue end +10μ red end -12μ cent Blue in Red	
Fe/[illegible]	4-4-4	80/20	2"-3"	5.81	A0	"	"	120μ	IIa0-e	B	Shelt Bln	Reversed	
									"				
Fe/–	6-[illegible]	80/153	3"	3.50	A0V	BC	G81/-.025	120μ	IIIaJ-e	B	SB Bln	wk →	s/wk
									"				
[illegible]	4-4-4	400/110	2"	6.18	A3V	BC	G121·68	150μ	IIa0-e	B	SB Bln	T=77°F Exp meter [illegible]	Fine Exp Fe in Stellar
"	4-4-4	800/38*	?<2"	9.74	09.7Ib	"	"	200μ	"	B	"	*Exp meter bad Cloud	s/wk
Fe/–	18-[illegible]					"	"	200μ	098	B		cent s/Blue	

123 2 Large Tours

Date June 18-17 1979 Observers BK-TM

Emulsion Batches: Ha-e 14096-12108

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp.	Exp Mtr	Seeing
43572	HD 194093	20 18.6	+39 56	22 58	23 15	3 44E	+40 10	Fe/ND	4-4-4			
43573 ✓	HD 161797	17 42.5	+27 47	23 22	23 32	0 50E	+27 43	"	4-4-4		81/88	
43573T	Spectrum Cal	43572-81,			15 min @	✓	D3 4300	D3 4300				
43574	HD 147547	16 17.5	+19 23	23 40	0 00	1 02W	+19 12	Fe/ND	4-4-4			
43574F	Focus Test					"	"	Fe/—	6/6			
43574T1	1/2 Spectra Shift Test		(Comp mode)			1 10W	"	Fe/—	6/6			
43574T2	"	" "	(Stellar mode)			"	"	Fe/—	6/6			
43575	HD 137391	15 20.7	+37 41	0 11	0 26	2 27W	+37 28	Fe/ND	4-4-4			
43576	HD 155103	17 04.5	+36 04	0 31	1 00	1 14W	+35 57	"	4-4-4			
43577	HD 187013	19 42.6	+32 30	1 05	1 24	0 59E	+33 40	"	4-4-4		8/35	
43578	HD 187691	19 48.2	+10 10	1 28	1 57	0 31E	+10 21	"	4-4-4		8/35	
43579	HD 187638	19 45.9	+38 28	2 02	2 41	0 15W	+38 37	"	4-4-4		8/35	
43580	HD 187849	19 47.0	+38 27	2 44	3 25	0 58W	+38 38	"	4-4-4		8/40	
43581	HD 204367	21 26.3	-6 01	3 32	3 39	0 28E	-5 38	"	4-4-4		8/36	

Spectr. Temp. +75°F Dome Temp./Hum 73°F / H=77% Transparency Conditions Cloudy 124

Focus 484

Spectr. Temp. + 73°F Dome Temp./Hum +69°F / H=

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	80/[illegible]	3	2.9	F8	BC	5/2/68	20μ	[illegible]	B	Water Proc		fine
[illegible]	[illegible]	80/38	3	4.2	G5	"	"	"	"	B	"		v sl str.
[illegible]									"				
[illegible]	[illegible]	80/30	3	4.0	A9	BC	6/2/68	15μ	"	B	Wat Prog		v sl str.
[illegible]						"	"	"	098	B			cond sl Blue [illegible]
[illegible]	[illegible]						"	"	"	B			
[illegible]	[illegible]						"	"	"	B		Clearing ↓	
[illegible]	[illegible]	80/30	1-2"	4.6	F0		"	"	[illegible]	B	Wat Prog.		v sl str
"	[illegible]	80/28	"	5.7	A5	"	"	"	"	B	"		v sl str.
"	[illegible]	80/35	"	5.5	F5	"	"	"	"	B	"		v sl str.
"	[illegible]	80/35	2"	5.6	F8	"	"	"	"	B	"		Fine
"	[illegible]	80/35	"	7.0	G5III	"	"	"	"	B	"		fine
"	[illegible]	80/60	"	6.9	M2III	"			"	B	"		fine v sl wk
"	[illegible]	80/26		3.7	G0Ib	"	"	"	"	B	Std. Vel		v sl str

125

Date 1979 June 17/18 Sun/Mon Observers KK-Th

Emulsion Batches: IIaF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43581F1	Focus test B	ph + .011 inch shim on top side (away from optical plate)						Fe/–	14-14
F2	Focus test, no shim							"	"
F3	"							"	"
F4	"							"	"
T1	Full Aperture Shift test	with coupler but with downward force on linkage minimized						"	10-10
T2	" "	" "	"	"	"	"	"	"	5-5

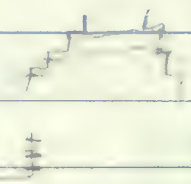
Spectr. Temp.
Focus 48
Spectr. Temp.
Exp Mtr. Sec

Spectr. Temp. 76° Dome Temp./Hum. 67°F / 90% Transparency Conditions haze + scattered cloud 126

Focus 484

Spectr. Temp. 74°F Dome Temp./Hum.

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	G12/.68	120	IIaF	B+	shim		cont. red
						"	"	"	"	B			blue end red red end blue
						"	"	"	"	A			blue end ok red end sl. blue
						"	"	"	"	A	after adjustment	Blue end CCW 30° Red end CW 30°	Forget, it was [illegible]
	10-[illegible]					"	"	"	"	B			cont blue ?
	5-5					"	"	"	098--	B		74°	



127

Date JUN. 18/19. MON/TUE. 79 Observers Bust-Tr

7m 68°

Emulsion Batches:
IIaO-e 12108-14096 18,168
IIaO-e* 12108-17069 18,194

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43582F	Focus Test					0	50°	Fe/—	15-15
43582 ✓	HD 138406	15 26.2	+62 05	20 48	21 29	0 29 E	+61 47	[illegible]	10-5
43582T	Spot Calc for 43582-84.				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43583	HD 137182	15 19.5	+10 54	21 34	22 45	+00 51 W	+10 37	Fe/ND	5-5-5
43584	HD 156547	17 13.1	+26 00	22 49	0 16	0 29 W	+25 53	Fe/ND	5-5-5
43584T	Spot Calc for 43585-87				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43585	HD 157702	17 19.7	+18 56	0 20	2 02	2 08 W	+18 50	Fe/ND	5-5-5
43586	HD 176003	18 53.0	+44 05	2 06	03 06	+01 40 W	+44 08	"	5-5-5
43587	HD 186791	19 41.5	+10 22	3 12	03 18	01 02 W	+10 31	"	8-8
43587F1	Focus Test							Fe/—	15-15
43587F2	" "							Fe/—	15-15

Spectr. Temp. +68°F Dome Temp./Hum. 66°F / 67% Transparency Conditions Fine 128

Focus 490 – 492

Spectr. Temp. 63°F Dome Temp./Hum. +59°F / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	120μ	IIa F	B			vsl red
400/85	2-3	6.79	A0	BC	G12/68	120μ	IIa D-E	B	Am MR		fine
							"				
400/80	3-4	7.19	A0	BC	G12/68	120μ	"	B	Am MR		fine
400/≈80*	4"-5"	7.04	A1	"	"	"	"	B	Am MR	T=66°F set 492 * Exp meter [illegible] by guiding [illegible]	vsl sm
							IIa D-e *				
400/86	4"-5"	7.48	A0	BC	G12/68	120μ	"	B	Am MR		
400/91	4"	7.00	A1	"	"	"	"	B	"		fine
40/14	"	4.15	K3 II	"	"	"	"	B	Std vol	Fe Arc trouble	fine
				"	"	"	IIa F	A	T=63°F set 492	Flat +17μ cent red	
				"	"	"	"	B		blue end +23μ bad red end −3μ cen	[illegible]

129

Emulsion Batches: II-O-e 12108-17069 18,178

Date Jun 19-20. Tues-Wed. Observers Lg.-Tn.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43588F1	Focus Test				-	0h	+30°	Fe/-	14-14
43588F2	" "	discarded				"	"	Fe/-	14-14
43588	HD 112989	12 55.5	+31 19	20 50	22 02	2 36W	+30 54	Fe/ND	8-8-8
43588	Spot Calc for	43588-	94.		15min @ 15V	D4 3400	D3 4300	D2 4810	
43589	HD 128220	14 30.6	+19 39	22 09	00 26	3 26 W	+19 18	Fe/ND	5-5-5
43589F1	Focus Test					0h	-6°	Fe/-	15-15
43589F2	" "					0h	-6°	Fe/-	15-15
43590	HD 162714	17 47.3	-06 07	00 43	02 40	2 22W	-06 07.3	Fe/ND	4-4-4
43591	HD 157482	17 18.5	+40 04	02 45	02 59	* 2 12W?	+40 00	"	4-4-4
43592	HD 175426	18 50.2	+36 51	03 02	3 15	1 56W	+36 55	"	4-4-4
43593	HD 186791	19 41.5	+10 22	03 19	3 21	1 14W		"	6-6
43594	HD 163506	17 51.4	+26 04	03 27	3 42	3 22W	+26 04	"	6-6

Spectr. Temp. +69°F ..... Dome Temp./Hum. +66°F / 11-60 % Transparency Conditions Fine - s/haze ..... 130.

Focus ..... 488 ..... - Then - very clear

Spectr. Temp. +63°F ..... Dome Temp./Hum. +58°F / 75%

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	[illegible]					BC	G12/.68	70μ	IIaF	A		Acy cent +12μ ≈ Flat [illegible]	
Fe/-	[illegible]					"	"	70μ	"	B		no good, no comp	
[illegible]	[illegible]	80/60	2-10	6.06	G9II-III	"	G8/-.025	70μ/.3	IIaO-e	B	Ca II/Ly		
[illegible]									"				
[illegible]	[illegible]	800/135	5"	~8.6	O+G	"	"	200/.3	"	B	Sp Bin/Ly		
Fe/-	[illegible]					"	"	120μ	IIaF	A	T=66°F Set 488	≈ Flat cent +7μ	[illegible]
Fe/-	[illegible]					"	G12/.68	"	IIaF	A	" "	≈ Flat cent +6μ	[illegible]
[illegible]	[illegible]	400/185	3.5	7.40	G0p	"	"	"	IIaO-e	B	Bin Ceph-Ly		vs/wk
"	[illegible]	80/20	2-4	6.22	dF8	"	"	"	"	B	Sp Bin - Bln		Fine
"	[illegible]	80/23	3-	5.3	B3	"	"	"	"	B	Sp Bin - Ly		"
"	[illegible]	40/14	3	4.15	K3II	"	"	"	"	B	std vel		"
"	[illegible]	80/20	3-4	58	F2Ia	"	"	"	"	B	Ceph - Evans		"

Note - IIaF Focus Tests at Right of IIaO exp box

131

Date June 20-21 Wed Thurs Observers K.K.-Ty

Emulsion Batches:
5h 69° IIIa-e 12108 - 05096 15,235
IIa-e 12108 - 17069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seem
43595	HD 121370	13 49.9	+18 54	20 46	21 15	0h 58 W	+18 25	Fe/-	7-7-7	80/40	4
43596	HD 124897	14 11.1	+19 42	21 21	21 25	0 47 W	+19 15	"	7-10	40/65	4
43597	HD 137909	15 23.7	+29 27	21 30	22 36	0 47 W	+29 07	Fe/-	7-7-7	80/120	5
43597T	Spot Calc for 43595-97				15 min @	17.5V D4 3900	15 D4 4300	15 D4 4810			
43598	HD 161096	17 38.5	+4° 37	22 47	23:21	0 43 E	+4 30	Fe/ND	7-7-	80/24	4-8
43598T	Shift Test no Coupler		Stall 1st		by hand by KK	"	"	Fe/ND	7-7		
43598F1	Focus Tests					"	"	Fe/-	15-15		
F2	" "					"	"	Fe/-	15-15		

Spectr. Temp. +68°F ..... Dome Temp./Hum +64°F / 78% ..... Transparency Conditions Cloudy Hazy 132

Focus ..... 484 .....

Spectr. Temp. +66°F ..... Dome Temp./Hum +59°F / 89%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	7-7	80/140	4"	2.8	GO	BC	G12/.68	70μ	IIa J-e	B	Asm Bin-KK		good
"	7-10	40/65	4"	1.29	KOp	"	"	"	"	B	Std Vel ?	no coupler	good
[illegible]	[illegible]	80/120	5"	3.93	FOp	"	"	"	"	B	Asm-Spec KK	no coupler	focus best in center
									"				
[illegible]	7-7	80/24	4-8"	3.93	K2 III	BC	G12/.68	70μ	IIa J-e	B	Std Vel	cloud coupler used	Fine
[illegible]	[illegible]					"	"	"	"	B		cent - 2.8μ	[illegible]
[illegible]	15-15					"	"	"	IIa F	B		very bad Blue cent +7μ (Red cent -18μ)	blue [illegible]
[illegible]	15-15					"	"	"	IIa F	A		Big Cloud cent - 3 blue and cent - 6 Red and	[illegible] blue

133

Date June 24-25 Sun-Mon Observers Ly - Tn

Emulsion Batches: 7m 60° IIaO-e 12108 - 19069 17,182

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43599F1	Focus Test					0h		Fe/-	5-5
43599F2	"							Fe/-	15-15
43599	HD157482	17 18.5	+40 04	20 50	21 27	02 00E	+39 57	Fe/ND	7-7-7
43599T	Spot Calc for 43599 - 43605				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43600	HD 163506	17 51.4	+26 04	21 31 Approx	22 16	1 45E	+26 02	Fe/ND	7-7-7
43601	HD175426	18 50.2	+36 51	22 20	23 00	2 0 E	+36 55	"	7-7-7
43602	HD161096	17 38.5	+04 37	23 08	23 15	00 34E	+4 33	"	10-10
43603	"	"	"	23 21	23 25	00 24E	"	"	7-7
43604	HDE 226868	19 54.6	+34 56	23 38	03 21	1 17 W	+35 08	"	3-3-3
43605	HD175426	18 50.2	+36 51	03 25	03 38	2 38W	+36 57	"	5-5-5
43605F1	Focus Test after PHB adjustment			Red end CW 30° Blue end CCW 20°		0h	"	Fe/-	15-15
43605F2	Focus Test						"	"	15-15
43605 F3	Focus Test							Fe/-	15-15

Spectr. Temp. +59°F Dome Temp./Hum. +55°F / H=75% Transparency Conditions Very good 134

Focus 489 Photometric

Spectr. Temp. +53 °F Dome Temp./Hum. +50°F / H=91%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/–	[illegible]					Bc	G8/.025	120μ	IIaO?	B			blue red red blue
Fe/–	15-15					BC	G8/.025	120μ	IIaF	A			blue sl red sl blue
[illegible]	[illegible]	80/36	3-6	6.2	dF8	Bc	G8/.025	120μ	IIaO e	A	Sp Bin-Bln		vsl wk
									"				
[illegible]	[illegible]	80/50	3"-5"	5.8	F2Ia	BC	G8/.025	120μ	"	A	Ceph-Fe		fine
"	[illegible]	80/47	3"-8"	5.3	B3	"	"	"	"	A	Sp Bin-Ly		
		80/31	3"	3.9	K2III	"	"	"	"	A	Std Oel		vsl str.
"	[illegible]	80/20	"	"	"	"	G12/.68	120μ	"	A	"	T=57°F Focus 491	sl str.
	[illegible]	800/205	2"-4"	9.74	O9.7Iab	"	"	200μ	"	A	Sp Bln		fine
	[illegible]	80/25	3"	5.3	B3	"	"	120μ	"	A	Sp Bin-Ly		f
[illegible]	[illegible]					"	"	"	IIaF	B	Focus 491 T=53°F Compare with 43598F1=F2		blue red red blue
"	[illegible]					"	"	"	"	A	1" broken off Label end		≈ Flat
Fe/–	15-15							70μ	IIaF	B	after adjustment to pressure plate screws in PNB		
											Note. I must have reversed my		
											red & blue ends while adjusting		

135

Date June 25-26 Mon/Tue Observers Ly Tn

Emulsion Batches:
Dal-e 12108 – 19069 18, 173
Dao-e 12108 – 25069 16, 168

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43606F	Focus Test				moving in dec		+63	Fe/–	15-15
43606	HD138406	15 26.8	+62 05	20 55	21 36	00 04 W	+61 45	Fe/ND	5-10
43607	HD157482	17 18.5	+40 04	21 44	22 07	01 16 E	+39 56	"	7-7-7
43607T	Spot Calib for 43606–09				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43608	HD175426	18 50.2	+36 51	22 12	22 35	02 21 E	+36 55	Fe/ND	7-7-7
43609	HD162714	17 47.3	-06 07	22 40	23 51	00 03 E	-06 10	"	7-7-7
43610	HDE226868	19 54.6	+34 56	00 06	02 10	00 10 W	+35 07	"	3-3-3
43610T	Spot Calib for 43610				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43611	HD218356	23 02.2	+24 56	02 19	02 46	2 22 E	+25 20	Fe/ND	7-7-7
43612	HD222107	23 32.7	+45 55	02 53	03 20	2 19 E	+46 19	Fe/ND	10-10
43613	HD204867	21 26.3	-6 01	03 26	03 34	00 01 W	-5 42	"	10-10
43613F1	Focus Test after correctly adjusted							Fe/–	15-15
43613F2	" "							"	15-15

Spectr. Temp. +63°F ..... Dome Temp./Hum. +60°F / 60% H Transparency Conditions V. sl. thin [illegible] 136

Focus ....488.....

Spectr. Temp. +60°F ..... Dome Temp./Hum. +55°F / 70% H

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	G12/.68	120μ	IIaF	A			v sl blue tilt ok
[illegible]	[illegible]	400/95	2"	6.79	A0	BC	G12/.68	120μ	IIaOe	A	Ap MR		[illegible]
"	[illegible]	80/56	1"-2"	6.22	dF8	"	G8/.025	"	"	A	SB Bln		[illegible]
[illegible]									"				
[illegible]	[illegible]	80/54	1"-2"	5.3	B3	BC	G8/.025	120μ	"	A	SB - Ly		
"	[illegible]	80/54	2"-4"	7.1v	G0p	"	"	"	"	A	Ceph - Ly		[illegible]
[illegible]	[illegible]	800/228	2"	9.7	O9.7Iab	"	G12/.68	200μ	*IIaOe	A	Sp Bn - Bln	T = 62°F	v sl str
[illegible]									"				
[illegible]	[illegible]	80/110	1"	6.14	K0Ibp	BC	G8/.025	120μ	"	A	SB Ly	T = +61°F	[illegible]
[illegible]	[illegible]	[illegible]0/55	3"	4.9	G8III	"	"	70μ	"	A	SB - Ly		[illegible]
"	[illegible]	40/34	3"	3.73	G0Ib	"	"	"	"	A	[illegible]		v sl str
[illegible]	[illegible]					"	"	"	IIaF	B		cent ≈ +8μ red v sl red	blue v sl red ~~red v sl blue~~
"	[illegible]					"	"	"	"	A		cent ≈ +6μ	blue v sl red otherwise ok

137

Date June 26-27 Tue/Wed Observers Ly-Tn

Emulsion Batches:
4" IIIaJ-e 12108-06069
8" IIaD-e 12108-25069 18,174

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seeing
43614F1	Focus Tests					1" W	-3 20	Fe/-	17-17		
43614F2	" "					"	"	"	"		
43614F3	" "					" ✓ 9106 0 21E	"	"	"		
43614	HD141513	15 44.4	-03 07	20 51	21 26	0 21W ?	"	Fe/-	7-7-7	80/222	2-
43614T	Spot Calⁿ for 43614.			15 min	@ 17.5V D4 3900	15V D4 4300	15V D4 4810				
43615	HD157482	17 18.5	+40 04	21 34	22 44	0034E	+39 59	Fe/ND	7-7-7	400/300	2-
43615T	Spot Calⁿ for 43615-17.			15 min @	15V D4 3900	D3 4300	D2 4810				
43616	HD162714	17 47.3	-06 07	22 49	00 35	0 45W	-06 06	Fe/ND	7-7-7	400/273	3-
43617	HD161096	17 38.5	+4 37	00 55	01 11	1 29W	04 37	Fe/ND	7-7-7	400/220	"

Spectr. Temp. +66°F ..... Dome Temp./Hum +63°F / 70% Transparency Conditions ... Cirrus and haze 138

Focus ... 488-486 .....

Spectr. Temp. +63°F ..... Dome Temp./Hum +60°F / 84%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/L	[illegible]					BC	G8/-.025	120μ	IIaF	A	T=66°F Set 488		
"	"					"	"	"	"	A	T=66°F Set 486		
"	"					"	"	"	"	B	" "	cont rel - blue OK in Red	
Fe/L	7-7-7	80/222	2-3	3.50	A0V	"	"	"	IIIaJe	A	Sp Bin - Bln		comp v nk one side
									"				
[illegible]	[illegible]	400/300	2-7	6.22	dF8	"	"	"	IIaJe	A	Sp Bin - Bln.	H+K emission	sl. weak v weak at H+K
									"				
[illegible]	7-7-7	400/273	3'-5"	9.40	G0p	"	"	"	"	A	Cph - Ly	terminated due to cloud	
[illegible]	7-7-7	400/220	"	3.93	K2III	"	"	"	"	A	Std. Vel.	thick cloud mainly in 2 bursts of counts	

comparison uneven

139

Date June 27/28 Wed/Thu Observers KK - BTS

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43617F1	Focus test, Blue screw		Turned 60°	CCW				Fe/–	15.15
F2	" , Blue end moved down .008 inch							"	15.15
F3	" , Blue end moved up .012 inch								15.15
F4	Focus test								

Spectr. Temp. 66° Dome Temp./Hum. ..... Transparency Conditions 140

Focus 485

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.6	120	IIIaJ	B		can't [illegible]	
				BC	G12/.625	70	"	B		64° F = 485	
				"	"	"	"	B		" −5.4μ	more [illegible]
				"	"	"	"	A		" −4.8μ	
										best focus 64° = 486.7	

141

Date June 28/29 Thurs-Fri Observers GIS - BTS

Emulsion Batches:
7" 68° IIaOe 12108-27069 19,172
09802e 20049-06069

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43618F	Focus							Fe/-	4-4
43618	HD 120477	13 44 39	+16 18	21:08	21:34	+01 55	+15 55	Fe/ND4	4-4-4
43619	HD 120539	13 44 59	+21 46	21:41	22 11	+02 31	+21 22	Fe/ND4	4-4-4
43 620	HD 163506	17 51.4	+26 4	22:18	22 49	-00 56	+26 03	Fe/ND4	4-4-4
43621	HDE 226868	19 54.6	+34 56	23:05	03 32	+01 44	+35 07	Fe/ND4	4-4-4
43621T	spot calib for	43618 —	21	15V15min	D4 (1) 3900	D3 (2) 4300	D2 (3) 4810		
43622	HD 186791	19 41.5	+10 22	03 37	03 40	+02 05	+10 31	Fe/ND4	4-4-4
43622F	focus							Fe/-	4-4

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr.	Sec
400/160	2
400/162	4
400/110	3
800/119	3
40/16	4

Spectr. Temp. 69° Dome Temp./Hum. +62°F / 90% Transparency Conditions Hazy 1½

Focus 484

Spectr. Temp. Dome Temp./Hum. +57°F / 98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	GD/68	120μ	IIaOe	A			sl blue
400/160	2-4"	4.1	K5III	BC	G12/.68	150μ	IIaOe	A	CaII/Ly		v sl wk
400/162	4	4.9	K4III	BC	"	"	"	A	CaII/Ly		v sl wk
400/110	3	5.8	F2Ia	"	"	"	"	A	Ceph-Fe		v sl stn
800/119	3	9.74	O9.7Ia	"	"	200μ	"	A	Sp bin-Bln		ok
40/16	4-5	4.15	K3II	"	"	"	"	A	Sth. Vel.		fine
				"	"	"	"	A		62° 486½	sl blue

148

Date July 2/3 Mon/Tues Observers Bln – Bts

$7^m 68^\circ$ Emulsion Batches: IIaOe 12108 – 27069 17,165

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43623F	focus							Fe/–	5-5
43623	HD147835	$16^h 19^m 06$	+32° 34′	20:56	21:33	00 24E	+32° 21′	Fe/ND4	5-5-5
43624	HD157482	$17^H 18^M 27^S$	+40° 09′	21:40	00 24	01 27W	+39° 58′	Fe/ND4	8-8-8
43624T	spot cal for	43623-32		15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43625	HD163506 (89 Her)	$17^h 51.4^m$	+26° 04′	00 29	00 43	+01 13	+26° 01	Fe/ND4	5-5-5
43626	HD186791	$19^H 41^m.5$	+10° 22′	00 47	00 51	00 29E	+10° 33′	Fe/ND4	8-8
43627	HD 192422	$20^h 09.7$	+38° 28′	00 54	02 26	00 39W	+38° 41′	Fe/ND4	5-5-5
43628	HD 207198	21 42.2	+61° 59′	02 31	02 50	00 29E	+62° 18′	Fe/ND4	5-5-5
43629	HD213307	$22^h 25^m.5$	+57° 54′	02 53	03 12	00 51E	+58° 15′	Fe/ND4	5-5-5
43630	HD204172	$21^H 21^M.7$	+36° 14′	03 18	03 30	00 30E XW	+36° 33′	Fe/ND4	5-5-5
43631	HD188209	$19^H 49^M.0$	+46° 47′	03 34	03 44	02 18W	+46° 57′	Fe/ND4	5-5-5
43632	HD214680	$22^h 34^m.8$	+38° 32′	03 47	03 52	00 21E	+38° 54′	Fe/ND4	8–
32F1	focus							Fe/–	5-5
32F2	focus							Fe/–	5-5

Spectr. Temp. 66° Dome Temp./Hum. 64°F Transparency Conditions Cloud then clear 144

Focus 487

Spectr. Temp. 63° Dome Temp./Hum. 59°F/81%

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G12/.68	150μ	IIaOe	A		66° 487	good
Fe/N04 5-5-5	400/65	2	6.18	A3V	"	"	"	"	"	Sp. Bin-Bln		
Fe/N04 8-8-8	400/600		6.22	dF8	BC	G82/-.025	150μ	IIa-OE	A	Sp. Bin-Bln		HEK [illegible]
Fe/N04 5-5-5	400/80	3	5.81	F2Ia	BC	G12/.68	150μ	IIaOe	A	Sp Bin-Bln		Fine
Fe/N04 8-8	40/16	4-5	4.15	K3II	"	"	"	IIa-OE	A	Std. Vel.		
Fe/N04 5-5	400/100		7.60	B0.5	"	"	"	"	A	CNO - Bln		
Fe/N04 5-5-5	400/80	3	6.27	09	BC	G12/.68	150μ	IIa-OE	A	CNO-Bln	64° 488	Fine
Fe/N04 5-5-5	400/65		6.3	B7	"	"	"	"	"	Sp Bin-Bln		
Fe/N04 5-5-5	400/65		5.87	B0	BC	G12/.68	150μ	IIa-OE	A	CNO-Bln		
Fe/N04 5-5-5	400/65		5.56	09.5	BC	G12/.68	150μ	IIa-OE	A	CNO-Bln		
Fe/N04 8-	40/6		4.67	09	BC	G12/.68	150μ	IIaOe	A	CNO-Bln		
Fe/- 5-5					"	"	"	"	A		T=63° 488 (Flat vs/ Blue)	blue vs/ [illegible]
Fe/- 5-5					"	"	"	"	B		(but [illegible] blue)	vs blue

145

Date July 3/4 Tues/Wed. Observers Gis - Bts.

Emulsion Batches:
7m 68° IIaOe 12108-03079 18,170

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43633F	focus							Fe/-	7-7
43633	HD 141513 (32 Ser)	15h 44.m4	-3° 07'	20:58	21:06	00 13E	-03° 23'	Fe/ND4	4-4-4
43634	HD 175426 (δ' Lyr)	18 50.2	+36 57	21:14	00:07	00 15E	+36 54	Fe/ND4	4-4-4
43634T	spot cal for	43633-39		15 min 15 V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43635	HD 198183 (λ Cyg)	20 43.5	+36 07	00:18	00:26	01 50E	+36 22	Fe/ND4	4-4-4
43636	HD 199629 (58 Cyg)	20 53.5	+40 47	00:34	00:39	01 47E	+41 02	Fe/ND4	4-4-4
43637	HD 210334 (AR Lac)	22 04.6	+45 15	00:52	02:53	00 44E	+45 34	Fe/ND4	4-5-5
43638	HD 213307 (δ Lep C)	22 25.5	+57 54	03:06	03:37	00 21E	+58 13	Fe/ND4	5-5-5
43639	HD 206778 (ε Peg)	21 39.3	+9 25	03:44	03:51	00 37W	+09 46	Fe/ND4	5-5-5
43639F	focus							Fe/-	5-5

Spectr. Temp. ...67°..... Dome Temp./Hum. 156°F/70%... Transparency Conditions ...Hazy, variable cloudiness.....

Focus .....487.....

Spectr. Temp. .....59°..... Dome Temp./Hum. 154°F/80%..

146

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/.025	120μ	IIaOe	A		67° 487	Flat cent s/red
40/12	5-6"	3.5	A0V	"	"	"	"	A	Sp. Bln Bln.		
400/400	2-4"	5.2	B3	"	"	"	"	B	~~Sp Bln~~ Ly		
400/72	4"	4.42	B5V	"	G12/.68	"	"	A	Sp bln - Bln	63° 488	
400/80	4-5"	3.96	A0II	"	"	"	"	B	Sp bln - Bln.		
400/150	3"	7.3	G5+ K0	"	"	150μ	"	A	Radio star - Bln.		
400/62	1-2"	6.3	B7	"	"	"	"	B	Sp bln - Bln	60° 489	
40/17	3-4"	3.98	K2Ib	"	"	"	"	A	Std. vel.		
				"	"	"	"	B		59° 489	blue and red mirror OK

147 #1

Date 1979 July 4/5 Wed/Thurs Observers KK-Th

Emulsion Batches:
IIaOe 12108 - 27069
098.02 20049 - 04079 15 147
4m 68 * 098.02 20049 - 0[illegible]9

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr
43640 F1	Focus test					0h	0°	Fe/—	9-9	
F2	Focus test							"	"	
F3	"							"	"	
F4	"							"	"	
F5	"							Ne/—	30-30	
43640	Moon			21 01	21 02	00 57W	-11°33	Fe/[illegible]	7-7	40/[illegible]
43641	"			21 05	21 06	01 01W	"	"	"	40/[illegible]
43642	"			21 08	21 09	01 04W	"	"	"	40/10
43643	HD 161096	17 38.5	+4 37	21 27	21 31	01 38E	+4 32	"	"	40/18
43644	"	"	"	21 40	21 43	01 25E	"	"	7-7	40/15
43645	ADS 11632A	18 41.7	+59 29	21 58	01 00	0 50W	+59 32	Ne/—*	12-[illegible]-12	800/105
43645 ↓	Spot Calm	for 43645		15 min @	15V D3 4810	7V D1 H[illegible]	7V D2 4550			
~~43646~~	Vega HD172167	18 33.6	+38 41	01 12	01 13	1 10W		Ne/—	45-45	40/100
43647	"	"	"	01 17	01 21	1 18W		Ne/—	45-45	40/200
43648	"	"	"	01 23	01 29	1 26W		"	45-45	40/300
43649	HD 215182	22 38.3	+29 42	01 36	02 02	2 06E	+30 03	"	30-30-3	[illegible]/172

Spectr. Temp. 64°.5 Dome Temp./Hum. 60°F/62 % Transparency Conditions Scattered clouds, 148.

Focus 489 Many bit, Fast meteor seen

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/–	9.9					BC	G12/.68	120μ	098-02*	A	+22.6 μ	F=494	out contin [illegible]
"	"					"	"	"	"	B	+9.8 μ	F=489 blue end v red	red
"	"					"	"	"	"	A	+15.5 μ	"	
"	"					"	"	"	"	A	−5.3 μ	F=484	blue
Ne/–	30-[illegible]					"	G16B'/.38	"	"	A		F=492	fine
[illegible]	7.7	40/12				"	G12/.68	"	IIaO-e	A	std vel	F=489	[illegible]
"	"	40/10				"	"	"	"	A	"	F=494	[illegible]
"	"	40/10				"	"	"	"	A	"	F=484 T=64°F now	fine
"	"	40/18	3-4	3.93	K2III	"	"	"	"	A	std vel	F=489 T=64°F	[illegible]
	7.7	40/15	"	"	"	"	G16B'/.38	"	"	A	"	F=492 "	[illegible]
Ne/–	12-[illegible]	800/105	"	V-8.6	M4V	"	G24R'/.38	+V Filter 200	098-02	A	Asm-Spec KK	" * V filter before slit	v sl. str
									"				
Ne/–	45.45	40/100	2-3	0.0	A0V	"	G24I/.9	RS	IV-Nh	B	Exp Test	F=487 discarded	too wk
"	45.45	40/200	"	"	"	"	"	"	"	B	"		too wk
"	45.45	40/300	"	"	"	"	"	"	"	A	"		wk
"	30-[illegible]	40/172	3	V=2.9	G[illegible]	"	"	"	"	A	Asm Spec KK		too wk

hypering no good, apparently

149 #2 Cont of 4-5 July

Date ..... Observers .....Tn.....

Emulsion Batches: IV - Nh

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seeing
~~43649T~~	~~Spot calibration for 43646-49 1½ volts, 15 min~~				~~7081 D3~~	~~7680 D3~~	~~8464~~				
~~43649F~~	~~Focus Test~~							Ne/-	60-60		
43650	HD 203156	21 15.4	+37 49	02 19	03 33	0 48 W	+38 05	Fe/ND	5-5-5	80/65	2
43650T	Spot Cal'n for 43640-44, 43650-52 15 min @ 15V					D4 3900	D3 4300 D2 4810				
43651	HD 198183	20 43.5	+36 07	03 36	03 42	1 29 W	+36 21	Fe/ND	5-5-5	80/25	3
43652	HD 199629	20 56.1	+41 03	03 44	03 48	1 25 W	+41 04	"	7-7	80/30	3

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....150..

Focus ...4.87.....

Spectr. Temp. ...56...°F..... Dome Temp./Hum. +50°F / 80%.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							~~IV-Nk~~		discarded		
				BC	G24I/.9	RS	"	B	"	+58°F Set 4.87	
30/65	2"-4'	V 589	F2	"	G12/.68	120μ	D-O-e	B	Ceph-Rm	" "	
							"				
30/25	3"	4.42	B5 V	BC	G12/.68	120μ	"	A	SB β/n		Fine
30/30	3-4	3.96	A0 V	"	"	"	"	B	"		Fine

151

Date July 5/6 Thurs/Fri Observers Gis - Tn

Emulsion Batches:
7m 68° IIaOe 12108 - 27069
5m 58° 098-02E 20049 - 040 79 21 190

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43653F	Focus Test					0 13W	0°	Fe/-	
~~43653*~~	~~HD 141513 (32 Ser)~~	~~15h 47m.4~~	~~-3° 07'~~	~~20:40~~	~~20 44~~	~~0 27E~~	~~-03 23~~	~~Fe/ND4~~	~~7-7~~
43653	HD 141513 (32 Ser)	15 44.4	-3 07	20:47	20 51	0 20E	-03 23	"	7-7
43654	HD 157482	17 18.5	+40 04	20:58	22 18	0 27E	+39 59	"	5-5-5
43654T	Spot Calib for 43653-55.				15min @ 15V	D4 3900	D3 4300	D2 4810	
43655	HDE 226868 (CygX-1)	19 54.6	+34 56	22:27	01 09	0 12E	+35 06	Fe/ND4	3-3-3
43656	HDE 226868 (CygX-1)	19 54.6	+34 56	01:12	03:34	2 13W	+ "	Na/- Fe/ND4	3-3-3 3-3-3
43656T	Spot Calib for 43656-57.				15min @ 15V D3 4810	7V D1 Hα	7V D2 5450		
43657	HD 186791	19 41.5	+10 22	03:37	03:38	2 30W	+10 32	Na/- Fe/ND	5-5 5-5

Spectr. Temp
Focus 49
Spectr. Temp.

Exp. Mtr	Sec
80/33	
80/30	
80/120	
80/165	
80/144	
40/10	

Spectr. Temp. +63°F ..... Dome Temp./Hum. +61°F / 69% Transparency Conditions v.sl. Hazy 152

Focus ..... 487 .....

Spectr. Temp. +59°F ..... Dome Temp./Hum. +55°F / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/-.025	120μ	IIaOe	A			cent Red
~~80/33~~	~~2-3"~~	~~3.5~~	~~AOV~~	~~"~~	~~"~~	~~"~~	~~"~~	~~B~~	~~Sp. bin. - Bln~~	* prob blank but [illegible] just [illegible], no label	discard Yes
80/30	"	3.5	AOV	"	"	"	"	A	" "		Fine
80/120	"	6.22	dF8	"	"	"	"	B	"		Fine
							"				
800/165	2-3"	9.74	09.7Iab	BC	G12/.68	200μ	"	A	Sp. bin. - Bln	+63°F at beginning	Fine
800/144	3-5"	V=8.84	"	"	G16/.7	"	098-02E	B	"		vSl wk
							"				
40/10	3	4.15	K3 II	BC	G16/.7	200μ	"	A	std vel		Fine

153

(1979)
Date ..July 6/7 Fr/Sat Observers ....Bjo - Tn.....

Emulsion Batches:
7m68° ..II+O-e.. 12108- 03079
5m68° ..098-02E 20049- 04077 19,17

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43658F	Focus Test							Fe/-	15-15
43658	ND 141513	15 44.4	-03' 07'	20 43	20 53	-00 14E	-03 22	Fe/ND4	8-8
43659	ND 161096	17 38.5	+04 37'	20 56	21 04	-01 57E	+04 34	Fe/ND4	8-8
43660	HD 157482	17 18.5	+40 04	21 11	22 11	-00 29E	+39 58	Fe/ND	5-5-5
43660T ✓	Spot Cal'n for	43658-61.			15min @ 15V	D4 3900	D3 4300	D2 4810	-
43661	HDE 226868	19 54.6	+34 56	22 24	01 02	-00 14E	+35 09	Fe/ND	3-3-3
43662	"	"	"	01 07	03 40	2 22W	+35 08	Fe/ND Ne/-	3-3-3 3-3-3
43662T ✓	Spot Cal'n for	43662-63.			15mm @ 15V D3 4810	7V D1 Hα	7V D2 5450		
43663	ND 186791	19 41.5	+10 22	03 43	03 44.	2 41	+10 35	Fe/ND Ne/-	5-5 5-5

Spectr. Temp. ...
Focus.....4...
Spectr. Temp. ...

Exp. Mtr.	Seen
40/30	3...
40/30	"
80/70	"
800/140	3...
800/133	2...
40/12	

Spectr. Temp. 68°F Dome Temp./Hum. +65°F / H=66 % Transparency Conditions Fine to sl. Haze

Focus 485

Spectr. Temp. 63°F Dome Temp./Hum. +58°F / 78 %

154

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	68/-0.25	120u	IIIaJ	A		right on cent	OK
[illegible]	40/30	3-6"	3.5	A0V	"	"	"	IIa0-e	A	SB Bln		Fine
[illegible]	40/30	"	3.93	K2III	"	"	"	"	B	std Vel		blue and Fuzzy Focus Fine
[illegible]	80/70	"	6.22	dF8	"	"	"	"	A	SB Bln		~~Fine~~ sl. wk
[illegible]								"				
[illegible]	800/140	3"	9.74	09.7Jab	BC	G12/.68	200u	"	B	SB Bln	67°F	Fine
[illegible]	800/133	2"	"	"	"	G16/.7	"	098aE	A	"	65°F	Fine
								"				
[illegible]	40/12		4.15	K3II	BC	G16/.7	200μ	"	B	std vel	63°F	Blue and bad Focus sl st,

IIa0e dev July 9 D19 7min @ 68°F Bts

098a2e dev July 9 D19 5min @ 68°F Bts

155 2 Large Tours

Date July 7/8 Sat/Sun Observers Gis - Tn

Emulsion Batches: 7min IIaOC 12108 - 03079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43664	HDE 226868 (Cyg X-1)	19h 54.m6	+34° 56'	23:13	02:53	01 40W	+35 09	Fe/ND	3-3-3
43664T	Spot Calib for 43664			15 min	@15V	D4 3900	D3 4300	D2 4810	
43665	HD 213307 (δ Cep C)	22 25.5	+57 54	02:57	03 29	00 14 W	+58 15	Fe/ND	4-4
43666	HD 186791	19 41.5	+10 22	03:33	03 36	02 36 W	+10 34	"	6-6
43666 F1	Focus Test					0h	"	Fe/	6/6
43666 F2	" "					0h	"	Fe/	6/6

Spectr. Temp.
Focus 48
Spectr. Temp.

Exp. Mtr	Sec
800/196	5°
80/25	1-
80/27	2

Spectr. Temp. 71°F Dome Temp./Hum. 66°F / 73% Transparency Conditions Haze - some s. bred

Focus 483

Spectr. Temp. 66.5°F Dome Temp./Hum. 64°F / 80%

156

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/ND	3-3-3	800/196	5-2"	9.74	O9.7Iab	BC	G12/.68	200μ	IIaOe	A	Sp. bin-Bln.		Fine
D2									"				
480													
Fe/ND	4-4	80/25	1-2"	6.3	B7	"	"	120μ	"	B	Sp bin-Bln.		sl gng Fine
"	6-6	80/27	2	4.15	K3II	"	"	"	"	A	std vel		Fine
Fe/	6-8					"	"	"	"	B	T=66.5°F Set 483		cent red & blue cent vs/ blue in red
Fe/	6-6					"	"	"	"	A			OK cent vs/ blue

IIaOe dev July 9 D19 7min @ 68°F Bts

157

Date July 8/9 Sun-Mon. Observers Bln - Tn

Emulsion Batches:
7min H2O2 12108 - 07079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43667F	Focus Test					0h	+14 26	Fe/-	26 26
43667	HD161096	17 38.5	+4 37	20 36	20 41	02 14E	+4 36	Fe/ND	6-6
43668	HD188209	19 49.0	+46° 47'	20 47	21 00	04 04E	+46° 59'	Fe/ND4	5-5
43669 ✓	HDE226868	19 54.6	+34 56	21 07	23 28	01 41E	+35° 09'	Fe/ND4	4-4
43669T	Spot Calc for	43667-69.			15min @ 15V	D4 3900	D3 4300	D2 4810	
43669F1	Focus					01 40E	+35°	Fe/-	6/6
43669F2	Focus					"	"	"	"
July 11 Tests									
43669F3	Focus Test					0h	+5°	Fe/-	25-25
F4	" "	after PHB adj (blue end CCW 180°)				To bring blue up .010 inch? "	"	"	25-25
F5	" "	To see if center blue gives sharper visual Focus				"	"	"	25-25
F6	" "	"	"	"	"	"	"	"	25-25

Spectr. Temp. 73.5 °F Dome Temp./Hum. +72°F/70% Transparency Conditions Hazy to cloudy

Focus 483 158

Spectr. Temp. ..... Dome Temp./Hum. 68°F/74%

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	[illegible]					BC	G12/.68	120μ	IIIaJ	A			lost in Dev?
[illegible]	[illegible]	80/26	1-2	3.93	K2III	"	"	250μ	IIaO-e	A	std vel		Focus? Fine
[illegible]	[illegible]	80/15	"	5.56	09.5	"	"	150μ	"	A	CNO-Bln		vs/wk
Fe/[illegible]	4-4	800/[illegible]	2"	9.74	09.7	BC	G12/.68	250μ	IIa-OE	B	SB-Bln	cloudy !	wk
									IIa-OE				
Fe/-	[illegible]					BC	G12/.68	250μ	IIa-OE	B		T= 73.5F 483	cent v [illegible]
"	"					"	"	"	"	A			Flat or cent vs/Red
						IIaOe	[illegible]	July 9	[illegible]	7 min @ 68°F [illegible]			
Fe/-	[illegible]	Dome Temp +70°F				BC	G12/.68	120μ	IIIaJe	A	T= 72°F set 483		OK
"	[illegible]	(PH B noticably tight or clumped in)				BC	"	"	"	B	"	"	Far blue end [illegible] mid red OK
"	[illegible]					BC	"	"	"	A	"	478	cent [illegible]
"	[illegible]					BC	"	"	"	B	"	"	cent more [illegible] red center blue

Note do not use 250u slit = PAB [illegible]

159

Date July 12/13 Thurs/Fri Observers Bts

Emulsion Batches:
IIIaJe 12108-06069
IIaOe 12108-07079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. / Exp. Mtr	See
43670F	focus							Fe/-	16-16		
43670	HD161096 (βOph)	17h 38m.5	+4° 37'	22h 55m	23h 19m	+00h 40m W	+4° 36'	Fe/-	4-4-4	40/70	
43671	"	"	"	23h 27m	23h 35m	+00h 57m W	"	Fe/ND4	4-4-4	40/17	4
43672	"	"	"	23h 39m	23h 46m	+01h 08m W	"	Fe/ND4	4-4-4	40/17	
43673	"	"	"	23h 51m	23h 59m	+01h 29 W	"	Fe/ND4	4-4-4	40/18	
43674	"	"	"	00h 11m	00h 19m	+01h 41m W	"	Fe/ND4	4-4-4	40/17	
43675	"	"	"	00h 23m	00h 40m	+02h 03 W	"	Fe/ND4	4-4-4	40/17	45
43676	"	"	"	00 45	01 09	+02h 31 W	"	Fe/ND4	4-4-4	40/17	
43677	"	"	"	01 16	01 34	+02h 56 W	"	Fe/ND4	4-4-4	40/17	
43678	"	"	"	01 40	01 52	+03 14	"	Fe/ND4	4-4-4	40/18	
43679	"	"	"	01 56	02 04	+03 26	"	Fe/ND4	4-4-4	40/17	
43680	"	"	"	02 09	02 23	+03 45	"	Fe/ND4	4-4-4	40/17	
43681	HD 204172	21h 21.7m	+36° 14'	02 29	02 59	+00 38	+36° 33'	Fe/ND4	5-5-5	400/65	2
43681T	spot cal for	43670 - 82		15V 15min	① D4 3900	② D3 4300	③				
43682	HD 207198	21h 42.2m	+61° 59'	03 11	03 36	+00 56 W	+62° 21'	Fe/ND4	5-5-5	400/90	
43682F	focus							Fe/-	16-16		

Spectr. Temp. 78° Dome Temp./Hum. 75°F/84% Transparency Conditions v. hazy

Focus 481

Spectr. Temp. 75° Dome Temp./Hum. 70°F/84%

160

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIIaJ	A		78° 4min July 13 D19 R. 481	mostly red
40/70		3.93	K2III	"	"	"	"	A	engineering	481	wk, variable focus
40/17	4	"	"	"	"	"	IIaOe	A		78° 487	exp fine focus poor
40/17		"	"	"	"	"	"	A		487	v sl wk red poor f.
40/18		"	"	"	"	"	"	A		484	"
40/17		"	"	"	"	"	"	A		78° 481	v sl wk focus fair
40/17	4-5	"	"	"	"	"		A		clouds 478	sl wk focus ok
40/17		"	"	"	"	"	"	A		475	v sl. wk
40/17		"	"	"	"	"	"	A		484	wk
40/18		"	"	"	"	"	"	A		clear 77° 478	sl wk
40/17		"	"	"	"	"	"	A		478	"
40/17		"	"	"	"	"	"	A		77° 475	" uneven
400/65	2	5.87	B0Ib	BC	G12/.68	150μ	IIaOe	A	CNO-Bln	76° 482	
							IIaOe	July 13 7min @ 68°F in D-19 Ri			
400/90		6.27	Ib-II 09.7	"	"	"	"	A	CNO-Bln		
				"	"	"	IIIaJe	A		75° 482	sl blue

161

Emulsion Batches: 7min IIaOe 12108 - 13079 17 168

Date July 13/14 Fri/Sat. Observers But - Bts

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43683F	focus							Fe/-	4-4
43683	HD161096 (β Oph)	17 38.5	+4° 37'	21 09	21 13	-01 21E	+04 34	Fe/ND4	4-4-4
43684	HD 135679	15 11.3	+26° 01'	21 18	21 46	+01 39W	+25 45	Fe/ND4	4-4-4
43685	HD 156547	17h 13.1	+26° 00'	22 05	22 34	+00 26W	+26 02	Fe/ND4	4-4-4
43686	HD 168481	18 14.8	+15 47	22 38	23 09	+00 00	+15 56	"	4-4-4
43687	HD 176003	18 53.0	+44° 05'	23 15	23 47	+00 00		"	4-4-4
43688	HD 176695	18 56.4	+28 33	23 53	03 50	+04 00	+28 45	"	4-4-4
43688T	spot cal for	43683 -	88	15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43688F	focus							Fe/-	4-4

Spectr. Temp. 80° Dome Temp./Hum. 78° F/75% Transparency Conditions Haze, Some Cloud

Focus 480

Spectr. Temp. Dome Temp./Hum. 73°F/80%

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 4-4											80° 480	sl blue
FeWO4 4-4-4	410/17		3.93	K2III	BC	G12/.68	120μ	IIaOe	A	std vel		vsl wk
FeWO4 4-4-4	400/87	2	6.67	B9	"	"	"	"	A	Ap MR	broken (2 pieces)	
FeWO4 4-4-4	400/80		7.04	A1	"	"	"	"	A	Am MR	clear	fine
" 4-4-4	400/80		7.08	F0	"	"	"	"	A	Ap MR		comp sl wk on blue
" 4-4-4	400/80		7.00	A1	"	"	"	"	A	Am MR		"
" 4-4-4	400/?		8.7	K0	"	"	"	"	A		80° 480 THIN CLOUD	" + sl wk
6/- 4-4					"	"	"	"	A		77° 481	sl blue
			IIaOe dev July 14 019 7min @ 68°F Bts									

163

Date Sun - Mon July 15-16 Observers Bla - Ri

Emulsion Batches:
4½" 09802 20049 - 04079
7" IIaO E 12018 - 13079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Seem
~~43688F2~~	~~focus test~~							Fe/—	12-12		
43689	HD142860	15h 51m 50	+15° 59'	22.29	22:30	01h 58W	+15° 44	Fe/ND Ne/—	6 6 6 6	40/26	3
43690 ✓	HD172865	18 37.4	+30° 11	22:44	00:37	01h 13W	+30° 18	Fe/ND	5-5-5	400/250	1-2
43690T1	spot cal for 43689			15 min @	15U D3 4810	7U D1 Hα	7U D2 5450				
43690F	Focus							Fe/—	6-6		
43691	HD 186791	19h 41.5	+10° 22	00:46	00:48	00h 19W	+10° 33	Fe/ND	7-7	40/21	2
43692 ✓	HD 202128	21 08.8	+15° 34	00:52	01:23	00 33E	+15° 56	Fe/ND	5-5-5	400/120	2
43692T1	spot cal for 43690, - 96			15 min @ 15 Volts		D4 3900 D3 4700	D2 4810				
43693	HD 192660	20h 10.9	+40° 01	01:30	02:43	01h 46W	+40° 15	Fe/ND	5-5-5	800/260	1-3
43694	HD 192422	20 09.7	+38° 28'	02:46	03 36	02 40W	+38° 42	Fe/ND	5-5-2	800/241	
43695	HD 204172	21 21.7	+36° 14	03:43	03:51	01h 43W	+36° 35	Fe/ND	5-5-5	80/14	
43696	HD 214680	22 34.8	+38° 32	03:55	03:57	01h 35W	+38° 56	Fe/ND	7-7	40/6	3
43696F1	focus test					should be 0h 35W		Fe/—	16-16		

Spectr. Temp. 78°F Dome Temp./Hum. 24°C Transparency Conditions good

Focus 481

Spectr. Temp. 75°F Dome Temp./Hum. 21°C 90%

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					~~B.C.~~	~~G16/.7~~	~~150μ~~	~~098-02~~	~~A~~		~~T 78°F F 481~~	blank
	40/26	3	4.3	F6V	"	"	150μ	"	A	Hα Std		v sl str
	400/250	1-2	7.78	G5III K0III	"	G8/-.025	"	IIaO-E	A	UB-Bl		v sl wk
								098-02				
					B.C	G8/-.025	150μ	IIa-O	A	-	T=77° F=481	v sl blue
	40/21	2	4.15	K3III	"	"	"	IIa-O	A	Std/VA	F=482	fine
	400/120	2	6.51	A7V A7V	"	"	"	"	"	UB-Bl		fine
								IIaO-E				
	800/260	1-3	8.17	B0Ib	B.C.	G12/.68	150μ	IIaO-E	A	CNO Pros.		fine
	800/241		7.60	B0.5Ib	B.C.	G12/.68	150μ	IIaO-E	A	CNO Pros.		fine
	80/14		5.87	B0Ib	B.C	G12/.68	150μ	IIaO-E	A	CNO Pros.		fine
	40/6	3	4.67	O9V	B.C.	G12/.68	150μ	IIaO-E	A	CNO Pros		v sl str
					B.C.	G12/.68	150μ	IIaO-E	A		75° F=482 in exposed Box with the 098	blue

165

(NEW BATCH) Emulsion Batches: IIaoE 02 059-14 079 (NEW BATCH) 18,196

Date MON-TUES 16-17 Observers But-Pi

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43696F2	FOCUS							FE/—	4-4
43697	HD 161096 (β Oph)	17 38.5	+04 37	20 35	20 39	-01 43 E	+04 39	FE/ND	4-4-4
43698	HD 138406	15h 26.8	+62° 05	20 49	21 36	+01 28W	+61° 51'	Fe/ND	4-4-4
43699	HD 137182	15h 19.5	+10° 54	21:40	23:54	03h 51W	+10° 41	Fe/ND	4-4-
43699F1 ✓	spot cal			15 min	@ 15 Volts	D4 3900	73 4300	D2 4810	
43699F	FOCUS							FE/-	4-4
43700	HD 208835	21 53.9	+46° 23	01 42	02:21	00 15E	+46° 46	Fe/ND	4-4
	Wed July 18								
43700F1	focus Test							Fe/—	10-10
43700T2	full stellar + comparison							Fe/—	10-10

Spectr. Temp. ....77°F..... Dome Temp./Hum. 21°C ....73%..... Transparency Conditions ..GOOD → CLOUD.....

Focus .....482.....

Spectr. Temp. ....72°F..... Dome Temp./Hum. ..19°C.....

166

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FE/–	[illegible]											♀ 77°F ♀ 482	sl blue
FE/ND	[illegible]	40/17	5"	3.93	K2 III	BC	G12/.68	120μ	IIaOE	A	STD VEL		fine
Fe/ND	[illegible]	400/85		6.79	A0	B.C.	G12/.68	120μ	IIaOE	A	Am-MR		fine, [illegible]
Fe/ND B2 4810	4-4-[illegible]	400/80	5-8	7.19	A0	B.C.	G12/.68	120μ	IIaOE	A	Am-MR	clouds	fine
									IIaO-E				
FE/–	[illegible]											72°F 482	sl blue
Fe/ND	4-4	400/48	8-10	7.39	A0	B.C.	G12/.68	120μ	IIaO-E	A	Ap-MR	70°F 484 clouds again	[illegible]
Fe/–	[illegible]						G12/.68	New docker	098	A		68°F 484	
Fe/–	[illegible]						"	"	"	"			

167

Date July 18/19 Wed/Thurs Observers Gis - Bts

Emulsion Batches:
68° 7" IIaOe 02059-14079
4½" 098028 20949-17079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Sec
43701F	focus							Fe/–	4-4		
43701F2	focus							Fe/–	4-4		
43701	HD 142840	15h 51m 50s	+15° 59'	21:12	21 24	+00 57W	+15° 49'	Ne/– Fe/ND4	3-3-3 3-3-3	40/26	
43702 ✓	HDE 226868 (Cyg X-1)	19h 54.6m	+34° 56'	21 49	00 37	00 08W	+35° 12'	Fe/ND4	4-4-4	800/75	
43701T	spot cal for 43701			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450				
43703 ✓	HDE 226868 (Cyg X-1)	19 54.6	+34 56	00 40	03 46	03 18 W	+35 12	Fe/ND4	4-4-4	800/120	
43703T	spot cal for 43702 –			15 min @	15V D4 3900	15V D3 4300	15V D2 4810				
43704	HD 222368 (i Psc)	23 34.8	+5 05	03 53	03 56	00 13E	+5 35	Fe/ND4	4-4-4	40/10	
43704F	focus							Fe/–	4-4		

Spectr. Temp. 73° Dome Temp./Hum. 70°F/61% Transparency Conditions clear

Focus 483

Spectr. Temp. 66° Dome Temp./Hum. 62°F/71%

168

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIaOe	A		73° 483	blue vs. red red: v.s. blue
				"	"	"	"	B		(after plateholder adjustments)	blue: s blue red: s red
40/26	4"	3.85	F6 V	BC	G16/.7	150μ	098 02e	A	Hα std.		v sl. strong
800/175	4	9.74	09.7Ia	BC	G12/.68	200μ	IIaOe 098 02e	A	SB - Bln	72° 484	fine w/ for [illegible]
800/180	3	9.74	09.7Ia	BC	G12/.68	200μ	IIaOe IIaOe	A	SB - Bln		sl. strong [illegible]
40/10	3	4.64	F7V	BC	G12/.68	200μ	IIaOe	A	Std Vel	67° 485	sl. str
				BC	G12/.68	200μ	IIaOe	A		485	v sl blue

169

Thurs/Fri

Date July 19/20 Observers KK-Bts

Emulsion Batches:
68° 4½ O98a2e 02059-14079 17, 167
68° 7" IIaOe 20049-17079
68° 4½ IV-N (AgNO3)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43704S1 S2 S3	} β CBr α CBr	Speckle tests	λ = 5450	1/25 1/100 1/50 1/100 1/100					
43705F1	Focus test							Fe/—	10-10
05F2	"							Fe/—	10-10
05F3	"							Fe/—	10-10
43705	HD 142866	15 51 50	+15° 59'	21 35	21 43	+01 20	+15 49.6	Fe/NO4 Ne/—	3-3-3 3-3-3
43706	"	"	"	21 48	21 54	+01 31	"	Fe/NO4 Ne/—	3-3-3 3-3-3
43707	HD ADS 11632 B	18 42.1	+59° 30'	22 07	01 16	+02 06	+59 38.5	Fe/NO4 Ne/—	3-3-3 3-3-3
43707 V 1	spot cal for	43705 —		15min	D3 15V (1) 4810	D1 7V (2) Hα	D2 7V (3) 5450		
43708	HD 204867	21 26.3	-6° 01'	01 26	01 31	-00 26E	-5° 34.5'	Fe/NO4 Ne/—	3-3- 3-3-
43709	"	"	"	01 33	01 37	-00 21E	"	Fe/NO4 Ne/—	5-5 5-5
43710	HD 215182	22 38.3	+29 42	01 52	02 28	-00 40		Ne/—	30-30 -30
43711	"	"	"	02 31	03 18	+00 05		Ne/—	20-20
11F1	focus	No Mask on 1st, than stellar						Fe/—	20-20
11F2	"	usual						Fe/—	10-10
11F3	"	"						Fe/—	10-10

Spectr. Temp. 73° Dome Temp./Hum. 71°/61% Transparency Conditions clear

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	120μ	IIaF	A	−2.7μ	F=482	v sl blue
				"	"	"	"	B	−2.6μ		
				"	"	"	"	A			
40/25	2	3.85	F6V	"	G16/.7	120μ	098a2e	A	Hα Std		fine
40/25		"	"	"	"	150μ	"	B	Hα Std		fine
800/116	2	V=9.7	dM5	"	"	200μ	"	A	Asm-Spec KK	ADS 11632B	ok
							098a2e				
40/20	4	3.73	G0Ib	"	"	150μ	"	A	Std vel	without V filter	v sl str.
40/10		"	"	"	"	"	"	B	Std vel	with V filter	fine
40/220	4		G8II +F?	"	G16/.2	150μ	IV-Nh	B	Asm-Spec/KK	T=70° F=483 V filter in front of slit	sl str
40/200	"		"	"	"	"	HIE	A	"	"	fine ~~sl str~~
				"	"	"	IV Nh	B		"	
				"	G16/.7	"	IIaF	A		70° "	sl blue
				"	G12/.68	"	"	A		V filter before slit by error	

171

Date Thurs/Fri cont. Observers KK-Bts

Emulsion Batches: 10h 68m HIE

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Seeing
43712	HD 222368 (i Psc)	23 34.8	+5° 05'	03 34	03 40	-00 25	+05 36.5	Fe/ND4	6-6	10/11	
12F	focus			03				Fe/-	10-10		
43713	HD 222368	"	"	03 46	03 51	-00 15	+05 36.5	Fe/ND4	6-6	11/10	
43714	"	"	"	03 52	03 55	-00 10	"	"	6-6	11/10	
43715	"	"	"	03 56	03 59	-00 14	"	"	6-6	10/10	
43716	"	"	"	04 00	04 03	-00 03	"	"	6-6	10/10	
43717	"	"	"	04 04	04 07	-00 01	"	"	6-6	10/10	
43718	"	"	"	04 08	04 11	+00 05	"	"	6-6	10/10	
43718F1	full aperture shift test			New decker, old slit, no field lens				Fe/-	10-10		
72	decker out, full aperture			"				Fe/-	10		

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..clear.....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	10-2	40/11		4.64	F7V	BC	GD/.68	150μ	IIaDe.	A	Std tests	70° 483	ok
Fe/-	10-2					"	"	"	IIaF	A			v st blue
Fe/-	10	40/10		"	"	"	"	"	IIaDe	A	Std vel.		ok
		40/10	2"	"	"	"	"	"	"	"	"	F=487	ok
		40/10		"	"	"	"	"	"	B	"		ok
		10/10		"	"	"	"	"	"	A	"	F=479	fine
		40/10		"	"	"	"	"	"	B	"		fine
		40/10		"	"	"	"	"	"	A	"	F=483	fine
Fe/-	10-0					"	"	"300"	IIaF	B	+0.8μ	Tighter decker used, uncomplete	
Fe/-	10					"	"	"300"	"	A	+1.1μ	no decker	

173

Date Fri / Sat 20/21 Observers Bts - Bp

Emulsion Batches:
7 min IIaOe 20049 - 18079 18 183
09802e 02059 - 14079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. / Exp. Mtr.	See
43719F	focus							Fe/-	10-10		
43719	HD 142860	15h 51.50	+15° 59'	21 43	21 52	+01 32	+15° 46'.5	Ne/- Fe/ND4	3-3 3-3	40/25	3
43720	HDE 226868	19h 54.6	+34° 56'	22 09	0200	+01 38W	+35 08	Fe/ND4	4-4-4	800/175	
43720T	spot cal for	43719		15 min	D3 15V (1) 4810	D1 7V (2) Hα	D2 7V (3) 5450				
43720T2	spot cal for	43720 - 26		15 min	D4 15V (1) 3900	D3 15V (2) 4300	D2 15V (3) 4810				
43721	HD 204172	21 21.7	+36° 14	02 12	02 26	+00 37	+36° 35'.4	Fe/ND4	4-4-4	40/70	2
43722	HD 207198	21h 42.2	+61° 59	02 36	02 58	+00 50	+62° 22'	Fe/ND4	4-4-4	400/90	
43723	HD 213307	22h 25.5	+57° 54'	03 08	02 27	+00 34	+58° 16'.8	Fe/ND4	4-4-4	400/62	
43724	HD 214680	22h 34.8	+38° 32'	03 33	03 38	+00 36	+38° 56'.6	Fe/ND4	4-4-4	40/6	
43725	HD 13854	02h 09.9	+56 36'	03 46	04 09	-02 29	+56° 58'.2	Fe/ND4	4-4-4	40/10	
43726	HD 222368 (iPsc)	23 34.8	+5 05	04 16	04 21	+00 18	+05° 31'.3	Fe/ND4	4-4-4	40/10	
43726F	focus							Fe/-	4-4		

Spectr. Temp. 76° Dome Temp./Hum. ..... Transparency Conditions V. hazy

Focus 482

Spectr. Temp. ..... Dome Temp./Hum. 68°/78%

174

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	0-0					BC	G16/.7	150μ	098oze	A		76° 482	s/ blue
vel L Fe/NaH	3-3	40/25	3"	3.85	F6V	"	"	"	"	A	Hα Std		s/ spr.
Fe/NaH	4-4-4	800/175	2-3	9.74	Ia6 09.7	"	G12/.68	200μ	IIaOe	A	SB-Bln	76° haze → clear	fine
									098				
									IIaO				
Fe/NaH	[illegible]	400/70	2	5.87	B0Ib	"	"	150	IIaOe	B	CNO Bln.	74° 483	fine
Fe/NaH	[illegible]	400/90		6.27	Ib-I 09.7	"	"	"	"	A	"		fine
Fe/NaH	[illegible]	400/62		6.3	B7V	"	"	"	"	B	SB-Bln		fine
Fe/NaH	[illegible]	40/6		4.67	O9V	"	"	"	"	A	CNO-Bln	72° 483	
Fe/NaH	[illegible]	L100/80		6.77	B1Ia6		"	"	"	B	CNO-Bln		
Fe/NaH	4-4-4	40/10		4.64	F7V	"	"	"	"	A	Std vel		
Fe/-	4-4					"	"	"	"	A		72° 483	

IIaOe dev July 22 D19 7min 68°F Bts

Date July 21/22 Sat/Sun Observers Paxton - Bls - F. Reed

Emulsion Batches:
7 min. IIaO e ... 20049 - 21079
098 02e ... 02059 - 14079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43927F	Focus							Fe/–	4-4
43927 ✓	V1016 Cygni	19h 53m 35s	39 33'30"	23 30	01 00	+00 46	+39 49	Fe/ND4	4-4
43927T	sod cal for 43427-28,			15V 15min	① D4 3900	② D3 4300	③ D2 4810		
43928 ✓	V1016 Cygni	19h 53m	39 33'30"	01 03	03 29	+03 12	+39 49	Fe/ND4	4-4
28T	sod cal for 43429-30			15min	① D3 4810	② D1 2V Hα	③ D2 2V 5450		
43929	V1016 Cygni	19 53'35"	39 33'30"	03 36	04 00	+03 44W	+39 49	Fe/ND4 Ne/–	3-3 3-3
43930	HD204867 (β Aqr)	21 26.3	-6 01	04 12	04 17	+02 28W	-05 34E	Fe/ND4 Ne/–	5 5
30F	Focus							Fe/–	10-10

Spectr. Temp. 76° Dome Temp./Hum 73°/68% Transparency Conditions clear some haze

Focus 482 176

Spectr. Temp. 73° Dome Temp./Hum 68°/70%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/68	200μ	IIaOe	A		76° 482	
—	2"	10.4	e[]	"	"	"	"	A	York-Waterloo	finder field made	
							IIaOe				
—	2	"	"	"		"	"	A	"	75° 482	
							098oz				
—	4	"	"	"	G16/17	200μ	098eze	A	"	73° 483	only Hβ Hα, others wk
40/18	5	3.73	G016	"	"	200μ	"	A	Std Vel		strong
				"	"	"	"	A		73° 483	vs blue

IIaOe dev July 22 1919 7min 68°F Bts

43427 alone

43427T & 43428 together

177

Date July 22/23 Observers KK-Bds

Emulsion Batches:
IIaOe 20049-21079 17 182
09Roze 02059-22079 18, 185
IIIaJe 12108-26069 16, 206

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seen
43731S1	HD 137909 (β CrB)	15 23.7 42	+29 27	~20 30	speckle exposures						
31F	focus							Fe/–	7-7		
43731	HD 137909 (β CrB)	15 23.7 42	+29 27	20 46	20 52	+01 09	+29 13	Fe/ND4	9-9	[illegible]	[illegible]
43732	HD 140436 (γ CrB)	15 38.6 33	+26 37	20 55	21 00	+01 02	+26 26	Fe/ND4	9-9	[illegible]/60	
43733	HD 121370 (η Ceb)	13 49.9	+18 54	21 05	21 09	+02 59	+18 34	Fe/ND4	9-9	[illegible]/25	
43734	HD 14605 (4 Cph)	16 09.1	-3 26	21 13	21 19	+00 49	-03 37	Fe/ND4	9-9	[illegible]	
43735	HD 139361 (α Cph)	17 30.3	+12 38	21 25	21 29	-00 20	+12 40	Fe/–	15-15	[illegible]/8	
43736	"	"	"	21 31	21 36	-00 12	"	"		[illegible]/60	
43737	ADS 11632 A	18 41.7	+59 29	21 47	00 45	+01 46	+59 37	Fe/– Ne/–	3-3-3 3-3-3	[illegible]/110	3
37T1	spot cal for	43731-34, 39-42, 44-46	15V	15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
37T2	spot cal for	43735-36, 43		15min	D4 17.5V ① 3900	D4 15V ② 4300	D4 15V ③ 4810				
37T3	spot cal for	43737		15min	D3 15V ① 4810	D1 7V ② Hα	D2 7V ③ 5450				
43738	HD 201092	21 2.4	+38 15	00 55	01 05	-00 16		Fe/– Ne/–	3-3-3 3-3-3	400/55	3
43739	HD 206901 (K Peg)	21 40.7	+25 11	01 12	01 22	-00 37	+25 35	Fe/ND4	7-7-7	40/22	3
43740	HD 215182 (η Peg)	22 38.3	+29 42	01 27	01 42	-01 15	+30 10	Fe/–	19-15	40/100	

Spectr. Temp. 79° Dome Temp./Hum. 78°/62% Transparency Conditions v. hazy

Focus 481

Spectr. Temp. ..... Dome Temp./Hum. .....

178

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		3.93	F0p								
				BC	68/-.025	150μ	IIaOe	A		79° 481	good
40/24	23	3.93	F0p	"	"	"	"	A	Asm Spec KK		v sl str
40/20		3.81	A0IV	"	"	"	"	A	Asm Spec KK		sl str
40/25		3.27	G0	"	"	"	"	A	Asm Spec KK		v sl str
40/31		4.30	M1III	"	"	"	"	B	Std Vel		v sl wk
40/80		2.2	K5III	"	"	"	IIIaJe	A	Asm Spec/KK	dust	fine
40/80								B	Asm Spec/KK		fine
400/110	3"	V=8.9	dM4	"	G16/.7	200μ	098.02 IIaOe IIIaJe 098.02e	A	"	V filter in meter	[illegible]
400/55	3"	V=6.3	K7V	"	"	200μ	"	A	"Std Vel"	76° 61 Cyg B 482	fine
40/22	3"	4.4	F5IV	"	G8/-.025	150μ	IIaOe	B	Asm Spec/KK	V filter for 9 counts	v sl str
40/100		3.8	G8II? +F?	"	G8/.2	150μ	IIaOe	A	Asm Spec/KK	UV	

179

Date 22/23 Sun/Mon CONT Observers KK/BB

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
43741	HD 202109 (3 Cyg)	21 08.7	+29 49	01:47	02:01	+00 33	+30 12	Fe/-	15-15-15	40/100	5"
43742	HD 217782	22 58.0	+42 13	02:06	02 23	-00 54		Fe/ND4	7-7-7	40/20	
43743	HD 217675 (O And)	22 57.19	+41 47	02 27	02 44	-00 33	+42 15.5	Fe/-	10-10-10	40/100	
43744	HD 6582 (μ Cas)	01 01.6	+54 26	02:50	03:29	-01 53	+54 52	Fe/ND4	7-7-7	00/75	
43745	HD 3712 (α Cas)	00 34.8	+55 59	03 35	03 39	-01 15	+56 28	Fe/ND4	7-7-7	40/30	
43746	"	"	"	03 43	0346		"	"	10-10	80/90	
46F	focus							Fe/-	10 10		

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus .....

Spectr. Temp. 74° ..... Dome Temp./Hum. .....

180

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/100	3"	4.20	G8 II	BC.	G8/.2	50μ	IIaOe	B	Comparison for n Peg		
40/20		5.17	A2n	"	G8/.025	"	"	A	AsmSpec/KK		v. [illegible]
40/100		3.6	B6p	"	"	"	IIIaJe	B	AsmSpec/KK		fine
00/75		5.81	G5Vp	"	"	"	IIaOe	A	AsmSpec/KK	76° 482	v sl str
40/30		3.34	K0II	"	"	"	IIaOe	B	Std Vel		v sl str
40/30		"	"	"	"	"	"	A	"	F ÷ 477	"
				"	"	"	"	A		74° 481	v.sl. blue

181

Date 23/24 Mon/Tues Observers Burt - Rts

Emulsion Batches: IaOe 20049 - 23079 20, 188

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43747F	focus							Fe/ –	4-4
43747	HD 176003	18h 53m.0	+44° 05'	23 45	02 06	+02 58W	+44 11	Fe/ND4	4-4-4
47T	spot cal for	43747 –		15V.15 min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43748	HD 222368(iRc)	23 34.8	+5 05'	02 16	02 42	-01 09	+05 32	Fe/ND4	4-4-4
48F	focus							Fe/–	4-4

Spectr. Temp.
Focus
Spectr. Temp
Exp. Mtr.

Spectr. Temp. 78° Dome Temp./Hum. 75°/82% Transparency Conditions V. hazy 182

Focus 4.81

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/1.68	120μ	IIaDe	A		78° 481	
100/90	4-5	7.00	A1	BC	G12/1.68	120μ	IIaDe	A	Am = MR		
							IIaDe				
40/12		4.64	F7V	BC	"	"	"	A	std Vel		
				"	"	"	"	A		76° 482	

183

Date July 24/25 Tues/Wed Observers Bnt - Bts

Emulsion Batches:
7m 68° IIaOe 20049 - 23079 18, 169
↓
02059?

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43749F	focus							Fe/—	4-4
43749 ✓	HD 138406	15h 26.8m	+62° 05'	21 22	22 02	+02 25	+61 47	Fe/ND4	4-4-4
49T	spot cal for	43749-53.		15min 15V	D4 (1) 3900	D3 (2) 4300	D2 (3) 4810		
43750	HD 156547	17h 13.1m	+26° 00'	22 07	22 49	+01 24W	+25 55	Fe/ND4	4-4-4
43751	HD 176003	18 53.0	+44 05	22 54	23 25	+00 21W	+44 12	"	4-4-4
43752	HD 186791	19 41.5	+10 22	23 31	23 34	-00 20E	+10 36	"	4-4-4
43753	HD 176798	18 56.9	+43 07	23 45	00 31	+01 23W	+43 13	"	4-4-4
53F	focus							Fe/—	4-4
Tests July 26-27 ↓									
43753T1	Full aperture shift tests, new stops on coupler, (using coupler assembly) teflon decker mount,						Comp → Stellar	Fe/—	15-15
T2	"	"	"	"	"		reversed ★ order	"	"
T3	"	"	" "	"	"	comp 1st → Stellar		"	"
T4	"	"	" "	"	"	Stellar 1st →	Comp	"	"
43753F2	Focus Test					0h 0m	+34°	"	5-5
43753F3	" "					0 0	"	"	5-5

Spectr. Temp. ...80°..... Dome Temp./Hum. 78°F/82% Transparency Conditions ..V. hazy.....184...

Focus .....481.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	4-4					BC	G12/.68	120μ	IIaOe	A		80° 481	good
[illegible]	[illegible]	400/90	1-2	6.79	A0	"	"	"	"	A	Am MR		
[illegible]	[illegible]	400/80		7.04	A1	"	"	"	"	B	Am MR		
"	[illegible]	400/80		7.00	A1	"	"	"	"	A	Am MR	80° 481	
"	[illegible]	4[illegible]/15	1-2	4.15	K3II	"	"	"	"	B	STD VEL		
"	[illegible]	400/56		7.21	A3	"	"	"	"	A	Am MR	78° 481	
[illegible]	[illegible]					"		"	"	A		78° 481	
[illegible]	15 15					BC	G12/.68	"300"	IIIaJ	A		70° 484	+1.3μ
"	"	*. docker assembly not touched between stellar of T1, stellar of T2				"	"	"	"	B			
"	"	Normal roughness on assembly				"	"	"	"	A			
"	"	Normal roughness - ins out a few times before stell				"	"	"	"	B		2 inches of [illegible]	
"	5-5					BC	G12/.68	"	IIaO	A		T=71°F Set 484	center v. sl. red
"	5-5					"	"	"	"	B		" "	redend sl red
												over →	

185

Date July 26-27 Thurs-Fri Observers KK-Tn

Emulsion Batches:
IIaO-e 02059 - 23079 22, 188
IIaO-e* 02059 - 24079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43753T5	Full aperture shift tests without coupler assembly s very gentle					0h 0m	34°	Fe/—	4-4
43753T6	" " " "	"	"	"	"	0h 0m	+34°	"	4-4
43754	HD 186791	19 41.5	+10° 22'	23:25	23:34	-0 10 E	+10° 34	Fe/ND4	6-6
43755	"	"	"	23:38	23:48	+0 02 W	"	"	6-6
43756	HD 203156	21 15.4	+37 49	00:05	02:09	+0 50 W	+38 07	Fe/ND4	4-4-4
43756T ✓	Spot Calib for 43754-56			15 min @ 15V		D4 3900	D3 4300	D2 4810	
43757	HD 206901	21 40.7	+25 11	02:12	02:28	+0 45 W	+25 34	Fe/ND4	4-4-4

Spectr. Temp. +71°F ..... Dome Temp./Hum 68°F/H 98% Transparency Conditions occasional cloud from N thru NE Then SE-S

Focus 484 - 486 186

Spectr. Temp. 67 °F ..... Dome Temp./Hum +61°F/ % → "300" = old 120μ plane slit

Comparison Type Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	4-4	Complst →	Stellar			BC	G12/168	"300"	IIaO	A		−0.4μ	fine
"	[illegible]	Stellar →	Comp			"	"	"	IIaO	B	(stellar done without movement from previous stellar)	Comp [illegible] +0.6μ	
[illegible]	6-5	40/31	4"-6"	4.15	K3II	"	"	"	IIaO-e	A	Std Vel.	no coupler assembly used	fine
"	6-6	40/31	"	"	"	"	"	"	"	A	"	new coupler assembly used	fine
[illegible]	[illegible]	100/200	3"-8"	V=5.9	F2	"	"	"	"	A	Ceph/Evans	cloud	double* exposure
									"			MAY be on same plate	
[illegible]	[illegible]	80/21	4	4.4	F5IV	"	"	"	IIaO-e*	B	AsnSpec/dk	Set 486	blank

* very good double exposure – plate apparently not removed between 2 exposures

187

Fri / Sat

Date July 27 / 28 / 79 Observers Bjo – Tn

Emulsion Batches:

5m 67° 098-02E 20049 – 22079 23,17

7½m 680 H90-e 02059 – 24079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43758 F	Focus							Fe/—	5-5
43758	ND 142860	15h 51m.8	+15° 59'	20 24	20 34	00 41 W	+15° 42'.8	Fe/ND Ne/—	4-4 4-4
43759	ND 161096	17 38.5	+4 37	20 41	20 44	00 55 E	+04° 33'.5	Fe/ND Ne/—	4-4 4-4
43760	ND 199216	20 50.7	+49° 09'	(Very little hour) 20 59	00 13	00 37 E	49° 25'.5	Fe/ND4	4-4-4
43759 T ✓	Spot Calc for 43758-59				15min @	D3 15V 4810	D1 7V H α	D2 7V 5450	
43760 T ✓	Spot Calc for 43760-65.				15min @ 15V	D4 3900	D3 4300	D2 4810	
43761	ND 207198	21h 42.2m	61° 59'	00 18	01 20	-00 20 E	62 19.4	Fe/ND	4-4-4
43762	ND 213307	22 25.5	57 54	01 24	02 20	-00 04 E	+58 15	Fe/ND	4-4-4
43763	ND 204172	21 21.7	36 14	02 29	02 45	+01 24 W	36° 33'.5	Fe/ND	4-4-4
43764	ND 13854	02 09.9	56 36	02 5[illegible]	03 39	-02 32 E	56° 55'.4	Fe/ND	4-4-4
43765	ND 12929	02 01.5	22 59	03 47	03 49	-02 13	23° 19'.6	? Fe/ND	[illegible] 6-6
43765 F	Focus							Fe/—	5-5

Spectr. Temp. +73°F ..... Dome Temp./Hum. +75°F / 70% Transparency Conditions ... thin cloud - thick .....

Focus ... 484 .....

Spectr. Temp. 68.5 °F ..... Dome Temp./Hum. +65°F / 100% +

188

Comparison Type/Filter	Comparison Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/-	5-5					BC	G16/.7	150μ	09802E	A			
Fe/ND	4-4	80/50	2"	3.85(V)	F6 V	"	"	"	"	B	Hα Std		
[illegible]	[illegible]	80/38	1"-2"	3.93	K2 III	"	"	"	"	B	std Vel		
[illegible]	[illegible]	300/250*	2-3	7.51	B1 II	"	G12/.68	"	IIaD-e	A	CNO-Bln	* Exp meter unstable [illegible] cloud [illegible]	
[illegible]									09802E			? may be fogged due to PH [illegible]	
[illegible]									IIaD-e				
[illegible]	[illegible]	400/98	3"	6.27	Ib-II 09.7	BC	G12/.68	"	"	B	CNO Bln		
[illegible]	[illegible]	400/65	3"	6.3	B7 V	"	"	"	"	A	SB-Bln		
[illegible]	[illegible]	400/75	3"	5.87	B0 Ib	"	"	"	"	B	CNO Bln		
[illegible]	4-4-4	400/90	3"	6.77	B1 Iab	"	"	"	"	A	"	70°	
[illegible]	6-6	40/14		3.15	K2 III	"	"	"	"	B	std Vel		
[illegible]	[illegible]								09802			68.5°F	

189 2 Visitor Tours 2½ hrs

Date July 28-29 1979 (Sat-Sun) Observers BK-Tm

Emulsion Batches: 7½" 680 IIaO-e 02059-24079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43766 F	Focus Test	[IF fogged, then whole box 22049-22079 of 098s is also same]						Fe/-	4-4
43766	HD 146361 A	16 10.9	+34 07	22 50	23 13	3 05 W	+33 54	Fe/ND	4-4-4
43767	HD 146361 B	"	"	23 14	0 12	4 04 W	+33 55	"	4-4-4
43767 T	Spot Calc for 43766-71				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43768	HD 187691	19 46.2	+10 10	0 15	0 40	0 56 W	+10 21	Fe/ND	4-4-4
43769	HD 186704	19 40.9	+4 00	0 44	2 44	3 05 W	+4 12	"	4-4-4
43770	HD 218452	23 03.1	45 51	2 47	3 14	0 14 W	+46 16	"	4-4-4
43771	HD 222399	23 35.1	37 06	3 18	4 06	0 34 W	+37 31	"	4-4-4

Spectr. Temp. 72.5 °F Dome Temp./Hum. +66°F / 85% Transparency Conditions some cloud

Focus 484

Spectr. Temp. 6.6 °F Dome Temp./Hum. +61°F /

190

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	G2/168	120μ	098-02E	A		[illegible]	
[illegible]	400/120	3"	6.20	F8 V	"	"	"	IIaO-e	B	Water [illegible]		
" [illegible]	400/120	2-3"	7.30	G1 V	"	"	"	"	A	"		
[illegible]								"				
[illegible]	400/120	3-5	5.6	F8 V	BC	G12/168	120μ	"	B	Water [illegible]	cloud	
" [illegible]	400/110	3"-8"	7.6	G2 V	"	"	"	"	A	"		
" [illegible]	400/170	3"	6.7	K5 III	"	"	"	"	B	"		
" [illegible]	400/120	2-3	6.9	F1 IV	"	"	"	"	A	"		

191 Sun-Mon

Date July 29-30/79 Observers Bln-Tn

Emulsion Batches:
5m 67° 098-02E 20049 - 22079 24,19
7½ 68 IIaO-e 02059 - 24079 21,212
7½ 68° IIaO-e* 02059 - 28079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43771F1	Focus Test							Fe/ND	5-5
43771F2	" "							Fe/ND	5-5
43772	HD 142860	15 51.8	+15 59	20 24	20 34	00 49 W	+15 45	Fe/ND Ne/—	5-5 5-5
43772T	Spot Cal'n for 43772				15min @ 4810	15V D3	7V D1 Hα	7V D2 5450	
43773	HD 141513	15 44.4	-3 07	20 40	20 44	01 06 W	-3 20	Fe/ND	5-5
43774	HD191781	20 06.6	+45 06	20 57	01 52	01 54 W	+45 22	Fe/ND	3-3-3
43774T	Spot Cal'n for 43773-75.			15min @ 15V	D4 3900	D3 4300	D2 4810		
43775	HD 192660	20 10.9	+40 01	01 57	03 28	3 24 W	+40 17	Fe/ND	4-4-4
43776	HD 207198	21 42.2	+61 59	03 31	03 43	2 10 W	+62 22	"	4-4-4
43776T	Spot Cal'n for 43776-79			15min @ 15V	D4 3900	D3 4300	D2 4810		
43777	HD213307	22 25.5	+57 54	03 45	03 55	01 39 W	+58 19	Fe/ND	4-4-4
43778	HD 214680	22 34.8	+38 32	03 58	04 01	01 35 W		"	4-4-4
43779	HD222368	23 34.8	+5 05	04 04	04 10	00 43 W	+5 33	"	6-6
43779F	Focus							Fe/—	6-6

Spectr. Temp. 74.5 °F Dome Temp./Hum. +74°F / 69% Transparency Conditions very good 192

Focus 482

Spectr. Temp. 70°F Dome Temp./Hum. +65 / 85%

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	6-5					BC	G12/.68	150μ	098-02	B	150μ decker slipping		
[illegible]	[illegible]					BC	G16/.7	"	"	B	(too loose)		
[illegible]	5-5	400/250	2"	V= 3.85	F6V	"	"	"	"	A	Hα Std	Labelled #71 by mistake	
[illegible]									"				
[illegible]	5-5	80/25	5-6	3.50	A0V	BC	G8/.025	150μ	IIa0-e	B	SB2-Bln		
[illegible]	3-3	600/150	3"-5-2"	10.18	ON9.7 Ib	"	G12/.68	200μ	"	A	CN0-Bln	Exp meter unstable	exp fine st flux [illegible]
									"	H-L ≈ 0050W	note I heard a "snap" noise around [illegible] near end of 43774. maybe something shifted?		
[illegible]	4-4	800/260	2-3	8.19	B0Ib	BC	G12/.68	150μ	"	B	CN0Bln	Focus 484 T=71°F	
"	4-4	400/90	2"	6.27	O9.7Ia	"	"	"	IIa0-e*	A	"		
									"				
[illegible]	4-4	400/60	2'	6.3	B7V	BC	G12/.68	150μ	IIa-0E*	B	SB-Bln		
"	[illegible]	40/6	2	4.67	O9V	"	"	"	"	A	CN0Bln		
"	6-6	40/14	3	4.64	F7V	BC	G12/.68	150μ	IIa-0E*	B	Std. Vel.		
[illegible]	[illegible]					"	"	"	IIa0	A	T=70° Set 484		

193

Tues - Wed

Date July 31 - Aug 1 Observers Rin - Tn

Emulsion Batches: IIaO-e 02059 - 28079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43780	HD163306 = 89 Her	17h 51.4	+26° 4	20h 35	21h 06	0 29E	+26° 8	Fe/ND	4-4-4
43780T	Spot Calib. for 43780 - 81				15 min @ 15H	D4 3900	D3 4300	D2 4810	
43781	HD180583	19 12.0	+27 45	21 12	2[illegible]-43	0 12W	+27 58	Fe/ND	4-4-4
43781F	Focus Test						"	Fe/—	4-4

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr.	Secs
80/21	[illegible]
[illegible]	[illegible]

Spectr. Temp. 78°F Dome Temp./Hum. 74°/97% Transparency Conditions hazy → cloudy

Focus 481

Spectr. Temp. 76°F Dome Temp./Hum. /98%

194

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
80/26	3"	5.82	F2Ia	BC	G12/.68	150μ	IIa O+	A	Cepth/Evans		
							"				
200/34	3-4"	6.2	F6I-IIb	BC	G12/.68	150μ	"	B	Cept/Evans	cloud	
							IIaO				

195

Thurs - Fri

Date Aug 2-3 1 79 Observers Tn - Sm - Ly

Emulsion Batches: IIaO-e 02059 - 01089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seem
43782F	Focus Test							Fe/—	5-5		
43782	HD 161096	17 38.5	+ 4 37	20 22	20 26	0 50E	+4 40	Fe/ND	5-5	45/45	
43783	HD157482	17 18.5	+40 04	20 40	22 0	1 05W	+40 04	Fe/ND	7-7-7	400/415	
43783T	Spot Cal for 43782-86			15min @ 15V		D4 3900	D3 4300	D2 4810			
43784	HD 191781	20 06.6	+45 06	22 09	02 37	2 55W	+45 24	Fe/ND	3-3-3	800/80	
43785	HD 203156	21 15.4	+37 49	02 42	03 53	3 02W	+38 13	"	4-4-4	400/200	
43786	HD 214680	22 34.8	+38 32	03 55	04 01	1 50W	+39 01	"	6-6	40/5	

Spectr. Temp. +74°F ..... Dome Temp./Hum. +70°F / H=90% Transparency Conditions Ok - sl hazy - some cloud

Focus ....481.....

Spectr. Temp. +68 ..... Dome Temp./Hum. +64°F / H=99%

196

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/L	5.5					BC	G12/.68	150μ	IIaO	B			
[illegible]	[illegible]	40/x15		3.93	K2II	BC	"	200μ	IIaOe	B	Std vel		
[illegible]	[illegible]	400/415	2"-3"	6.22	dF8	BC	G8/-.025	150μ	IIaOe	B	Sp Bin - Bln/Lg		
									"				
[illegible]	[illegible]	800/80*	2"-5"	10.18	ON9.7 Jub	BC	G12/.68	200μ	"	A	CNO-Bln	+73.5°F at begin * Some cloud [illegible]	
"	44.4	400/200	2"-3"	5.89	F2	"	"	120μ	"	B	Ceph-Rim	Set 484 T=68°F	
"	[illegible]	40/6 +	2"-4"	4.67	O9V	"	"	"	"	A	CNO-Bln		

IIaOe dev Aug3 D19 7min 68°F Bts

197

Date 3/4 Aug. '79 Fr/Sat Observers Blu-Tu

Emulsion Batches: 4½" 098-02 E 20849-07089
Hal-e 07059-01089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43787 F	Focus Test							Fe/–	6-6
43787	HD 142860	15 51.8	+15 59	20 14	20 27	01 02 W	+15 47	Fe/ND He/–	5-5 5-5
43787 T ✓	Spot Calib for 43787				15min @	15V D3 4810	7V D1 Hα	7V D1 5150	
43788	HD 192422	20 09.7	+38° 28'	20 36	22 11	01 31 E	+38 45	Fe/ND	4-4
43788 T ✓	Spot Calib for 43788-89				15min @	15V D4 3900	D3 4300	D2 4810	
43789	HD 199216	20 50.7	+49 09	22 20	00 29	00 07 W	+49 30	Fe/ND	3/4-8

Spectr. Temp. +75°F ..... Dome Temp./Hum. 75°F/86% Transparency Conditions hazy - cloudy .....

Focus ....482.....

Spectr. Temp. +74°F+ ..... Dome Temp./Hum. 71°F/85%

198

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	150μ	098[illegible]	A			
40/27	2"	V-3.85 4.3	F6V	"	"	"	09802E	A	Hα Std	Fe arc gap	
							"			calibration block	
00/120	1"-3"	7.60	B0.5Ib	BC	G12/.68	150μ	Ia-OE	B	CNO Std.	left in by Blu	
							"			Fe arc weak.	
00/73	2-4	7.51	B1 II	BC	[illegible]/.68	150μ	"	A	CNO std		

199

Date 5/6 Aug 1979 Sun/Mon Observers KK/Tn

Emulsion Batches:
4½ 68° IIIaJ 12108 - 23079
IIaO e 02059 - 04089
10½ 68° HIE

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43790F	Focus Test							Fe/—	6-6
43790	HD 121370	13 49.9	+18 54	21 29 21:29	21 37	4 21 W	+18 36	Fe/NDAX	6-6 8
43791	HD 137909	15 23.7	+29 27	21:41	22 04	3 16 W	+29 16	Fe/NDAX	6-6-6
43791 T	Spot Cal for 43792-91			15 min @ 15V		D4 3900 D3 4300	D2 4810		
43792	HD 159561	17 30.3	+12 38	22 09	23 11	2 15 W	+12 38	Fe/—	9-9-9
43792T ✓	Spot Cal for 43792			15 min @	17.5V D4 3900	15V D4 4300	15V D4 4810		
43793	HD 172167 α Lyr	18 33.6	+38 41	23 13	23 15	1 18 W		Fe/—	13-13
43794	HD 215182	22 38.3	+29 42	23 28	00 32	1 38 E	+30 10	Ne/—	15.15
43794T	Comparison test — Hollow cathode in IR							Ne/— Ne/—	30 5

Spectr. Temp. +78°F Dome Temp./Hum. +79°F/88% Transparency Conditions Cloudy

Focus 480 200

Spectr. Temp. Dome Temp./Hum. +/98% '300' slit = old 120μ plane slit in teflon decker

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	G8/-.025	70μ	IIaO	A			
Fe/NDAX 6-5	40/20	3-5"	3.27	GO	BC	G8/-.025	'300'	IIaOe	B	AsmSpec/KK	cloud	v sl str comp wk
Fe/NDAX 6-5-6	40/16	"	3.93	FOp	BC	G8/-.025	'300'	"	A	"	"	
								"				
[illegible]	40/100	3-5"	2.0	A5 III	BC	G8/-.025	'300'	IIIaJ-e	A	Asp Sp/KK	Cloud	wk
								"				~~good~~
[illegible]	40/93		0.0	A0V	BC	G8/-.025	'300'	"	B	[illegible]		v sl str.
[illegible]	40/78	3-6	V=2.9	G8 II +F ?	"	G16/.2	"	HIE	A	"	RHS III dT Dox +5sec [illegible]	sl wk, spotted
[illegible]					"	"	"	HIE	A			

201 [illegible]

Date Aug. 6/7 ..... Observers [illegible] .....

Emulsion Batches: 7'2 68° IIa-O-e 02059-04089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43794 F	Focus Test							Fe/—	5-5
43795	HD161096 = β Oph	17h 33.5	+4° 37	20h 10	20 14	00h 46 E	+4° 34	Fe/ND	8-8
43796	HD163506 = 29 Her	17h 51.4	+26° 4	20h 18	20 39	00 34 E	+26° 3	Fe/ND	5-4-4
43797	HD180533	19h 12.0	+27° 45	20 43	21h 36	0h 57 E	+27° 54	Fe/ND	4-4-5
43798	HD186688 = SU Cyg	19h 40.8	+29° 01	21 43	0h 32	1h 30 W	+29 12	Fe/ND	4-4-4
43798T	Spot Calib for 43795-43801			15 min	15V04 @ 3900	15V03 4300	15V02 5450		
43799	HD195295 = 41 Cyg	20h 25.3	+30° 2	0h 37	0h 57	1h 10 W	+30° 19	Fe/ND	4-4-4
43800	HD198726 = T Vul	20h 47.2	+27° 52	0h 59	2 57	2 48 W	+28 11	Fe/ND	4-4-4
43801	HD203156 = HR 8157	21h 15.4	~~+38°~~ +37° 49 −8	2h 59	4 34	3h 58 W	+38° 09	Fe/ND	4-4-4
43801F1	Focus test — w/ PH yoke							Fe/—	10-10

Spectr. Temp. 72°F Dome Temp./Hum. 71°F/67% Transparency Conditions good

Focus 483

Spectr. Temp. 64°F Dome Temp./Hum. 160°F/88%

202

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	5-5					BC	G12/.68	150μ	IIaOE?	A			
[illegible]	[illegible]	40/16		3.93	K2III	"	"	"	IIaOE	A	std vel		
[illegible]	5-4-4	80/26	2-5	5.82	F2Ia	"	"	"	IIaOE	B	Ceph/Evans		
[illegible]	4-4-5	80/27	"	6.7	F6I	"	"	"	IIaOE	A	Ceph/Evans		
[illegible]	4-4-4	400/137		6.8-7.7	F0-G1	"	"	120μ	IIaOE	B	Ceph/Evans	light cloud	
									"			Spect T=68°F 485	
[illegible]	4-4-4	40/29	3-6	4.9	F5II	"	"	120μ	IIaOE	A	Ceph/Evans std		
[illegible]	4-4-4	400/260	"	~6.9	F5IV-G0Ib	"	"	"	"	B	Ceph/Evans		
[illegible]	4-4-4	400/240	3-4	~6.5	F2	"	"	"	"	A	Ceph/Evans		
Fe/-	10-10					"	"	150μ	IIaF	A		T=65° F=500 Should be 495.5	

203 Tues - Wed

Date Aug. 7/8 Observers Tn

Emulsion Batches: IIa.O.e. 02059-07089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43801F2	Focus Test - w/PH Yoke							Fe/—	10-10
43802	HD 186791	19 41.5	+10 22	22 33	22 39	0 17E	+10 33	Fe/ND	7-7
43803	HD 192422	20 09.7	+38 28	22 54	00 11	0 46 W	+38 42	"	5-5-5
43803T	Spot Calc for 43802-03				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43803F1	Focus Test w PH Yoke							Fe/—	10-10
43803F2	" "	" "	with shim at midpt to push in PHB Lid					Fe/—	10-10
43803F3									
43803F4									

Spectr. Temp. 71°F Dome Temp./Hum. 72°F / 87% Transparency Conditions Hazy, gusty

Focus 5.00

Spectr. Temp. 70°F Dome Temp./Hum. 64°F / 93%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/168	150μ	IIaF	A	*RH side of IIaO Expox		
40/19	2"-3"	4.15	K3II	"	"	"	IIaO-e	A	stellvel	with Yoke	Too weak
400/120	2"-4"	7.60	B0516	"	"	"	"	A	CNO-Bla	" "	ok
							"				
				BC	G12/168	150μ	IIaF	A		Set 500T=70°F	
				"	"	"	"	B	Set screws retested	" "	
								A	plate removed	T=66°F F=500	
								B	set screws back in slightly		

205

Date 1979 Aug 8/9 Observers KK

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43803F6	Focus test (crude)							Ar	180-180
1979 Aug 10	after removal & reinstallation of comparison source turret								
43803F6	Focus test							Fe/—	10-10
F7	"							Fe/—	10-10
F8	"							Fe/—	10-10
T1	Comparison test - hollow cathode - old lens - mask out							NeFe/—	10-10

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr. Seeing

Spectr. Temp. 70° Dome Temp./Hum. ..... Transparency Conditions .....

Focus 494 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

206

Comparison Type	Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ar		18 .180						G12/.68	152μ	IIaF	A	after inserting washer to tighten yoke		blue
Fe/	–	10.1					BC	G12/.68	150μ	IIaO	A		T=69° F=494	blue
Fe/	–	10.10					"	"	"	098	B		blue blue red st. red	tilt
Fe/	–	10.10					"	"	"	098	A			blue
Fe/	–	10.10					"	"	"	098	A			v strong p. focus

207

Date Aug 10/11 '79 Observers Bin — Bts

Emulsion Batches:
IIaOe 02059 – 07089
OBoze

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43804F	focus							Fe/—	4-4
43804	ND 172865	18 37.1	+ 30° 11'	20 32	22 54	+01 13	+ 30° 19.5	Fe/ND4	6-6-6
43804T	spot cal for	43804-		15min 15V	(1) D4 3900	(2) D3 4300	(3) D2 4810		

Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mtr Sec

Spectr. Temp. ..69°..... Dome Temp./Hum. ..66°.....89% Transparency Conditions . some . cloud .....

Focus ...498..... 208

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/-.025	150μ	IIaOe	A		69° 498 blue red	sl red sl blue
400/135	2-4	7.78	G5 III + K0 III	"	"	"	"	A	VB-Bln	clouds	sl wk
							"				

209

Date Aug 11/12 1979 Observers BK - Bts

Emulsion Batches: IIaOe 02059 - 07089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43805	HD 187691	19 46.2	+10 10	1 54	2 28	3 42W	+10°24'	Fe/NO4	4-4-4
05	spot cal for	43805 - 09		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43806	HD 194093	20 18.6	+39 56	2 36	2 39	3 21W	+40 13		4-4-4
43807	HD 198387	20 44.9	+52 03	2 45	4 06	4 23W	+52 23		4-4-4
43808	HD 7927	1 13.8	+57 42	4 15	4 30	0 14W	+58 09		4-4-4
43809	HD 12533	1 57.8	+41 51	4 36	4 40	0 20E	+42 15		4-4-4
09F	focus							Fe/-	4-4

Spectr. Temp. ..... Dome Temp./Hum. 60°/83% Transparency Conditions scattered cloud

210

Focus .....

Spectr. Temp. 60° Dome Temp./Hum. 56°/86%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks		Quality
400/100	4-5	5.6	F8	BC	GD/68	120μ	IIaDe	A	Waterloo		498	fine
							IIaDe			63°	500	
40/10		2.9	F8	"	"	"	"	"				v sl stu
400/170		7.1	K0									fine
400/100		5.6	F0							62°	500	fine
40/17		3.3	K0									fine
							"			60°	501	good

spectrum rather wide on 120μ slit

211

Date Aug. 12/13. 1979 Sun/Mon Observers Bts - Gis

Emulsion Batches:
IIaOe 02059 - 07089
098oze 20049 - 02089 so 192
baked IIIaJe 12108 - 03079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43810F	focus							Fe/-	10-10
43810 ✓	HDE 226868 (Cyg X-1)	19h 54m.6	+34° 56'	20:16	22:39	00 10E	+35° 10.5'	Fe/ND4 Ne/—	3-3-3 3-3
10T	spot cal for	43810, 16-18		15min	D3 15V ① 4810	D1 7V ② Hα	D2 7V ③ 5450		
43811	HDE 226868 (Cyg X-1)	19h 54m.6	+34° 56'	22:48	01:38	02 49W	+35° 11'4	Fe/ND4	4-4-4
11T	spot cal for	43811 - 15, 19.		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43812	HD 209975 (19 Cyg)	22h 02m.0	+61° 48'	01:46	01:51	00 55W	+62° 13'.6	Fe/ND4	4-4-4
43813	"	"	"	01:55	01:59	01 03W	"	"	"
43814	"	"	"	02:02	02:06	01 10W	"	"	"
43815	"	"	"	02:09	02:14	01 18W	"	"	"
43816	"	"	"	02:21	02:25	01 29W	"	Fe/ND4 Ne/—	3-3-3 3-3-3
43817	"	"	"	02:30	02:34	01 38W	"	"	"
43818	"	"	"	02:38	02:42	01 46W	"	"	"
43819	HD 6182	00h 57m.8	+61° 18'	03:46	04:36	01 41W	+61° 41'	Fe/ND4	4-4-4
~~43~~	~~HD 3712 (α Cas)~~	~~00h 34m.8~~	~~+55° 59'~~	~~04:48~~				~~Fe/—~~	~~6~~
19F	focus							Fe/—	10-10

Spectr. Temp. .....67°..... Dome Temp./Hum. ..63°F/72%..... Transparency Conditions ...v..good.....

Focus .....499.....

Spectr. Temp. ..... Dome Temp./Hum. ..59°F/75%.....

212

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	200μ	098-02e	A		67° 499	
200/200	2-3"	9.74	09.7Iab	"	"	"	"	A	Sp bin - Bln	Counts off	[illegible]
							"				
800/150	2-3"	9.74	09.7Iab	"	G12/.68	200	IIaOe	A	Sp bin - Bln	64° 500	v sl str
							"				
400/75	2-3"	5.10	09.5Ib	"	"	"	"	A	Sp. Std.	63° 500	strong
"	"	"	"	"	"	"	"	"	"		strong
"	"	"	"	"	"	"	"	"	"		strong
"	"	"	"	"	"	"	"	"	"		strong
400/75	"	"	"	"	G16/.7	200μ	098-02e	"	"	63° 500 v	sl str
"	"	"	"	"	"	"	"	"	"		[illegible]
"	3	"	"	"	"	"	"	"	"		
800/120	"	8.70	B0.5Ip	"	G12/.68	200μ	IIaOe baked	A	CNO - Bln	dark slide left in 62° 500 thin cloud	sl str
~~40/~~		~~3.34~~	~~K0II~~	~~"~~	~~"~~	~~"~~	~~IIaE~~	~~A~~	~~std vel~~		
					"	"	IIaF	A		62° 500	[illegible]

213

Date ..... Observers .....

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
A3819F2	Focus test	after milling backs of A & B ph jaws						Fe/—	18-10
F3	"							Fe/—	18-10

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.	Seeing

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

214

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12	150μ	II&F	A		63° F = 500	good
				"	"	"	"	B			v red

215 Wed/Thurs

Date Aug. 15-16/79 Observers Lyn-Tin

7m 68° Emulsion Batches: IIaO-e 02059-12089 22 200
4½-68° 098-02E 20049-02089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43820F	Focus Test					0 0	+40°	Fe/—	7-7
43820	HD 157482	17 18.5	+40 04	20 05	21 28	01 27 W	+39 57	Fe/ND	7-7-7
43820T	Spot Cal. for 43820-24				15min @ 15V	D4 3900	D3 4300	D2 4810	
43821	HD157482	17 18.5	+40 04	21 31	22 53	02 52 W	+39 57	Fe/ND	7-7-7
43822	"	"	"	22 56	00 05	04 04 W	+39 58	"	7-7-7
43823	HD 175426	18 50.2	+36 51	00 11	00 35	03 02 W	+36 55	"	7-7-7
43824	HD 218356	23 02.2	+24 56	00 40	01 26	00 19 E	+25 18	"	7-7-7
43825	HD 219634	23 12.2	+61 25	01 35	03 17	01 22 W	+61 47	Fe/ND Ne/—	5-5-5 5-5-5
43825T	Spot Cal. for 43825				15min @	15V D3 4810 OK	7V D1 Hα lumpy	7V D2 5450	
43826	HD224559	23 53.7	+45 51	03:25	04 27	01 50 W	+46 13	Fe/ND Ne/—	5-5-5 5-5-5
43827	HD222368	23 34.8	+05 05	04:33	04 41	02 23 W	+05 29	Fe/ND Ne/—	8-8 8-8
43827F	Focus					0 0	+05	Fe/—	15-15

Spectr. Temp. 160°F Dome Temp./Hum. 160°F/87% Transparency Conditions Some cloud at beginning

Focus 502 Clear 216

Spectr. Temp. 55 Dome Temp./Hum. 150°F/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/-.025	120μ	?	A			
400/420	3-5	6.22	dF8	BC	G8/-.025	120μ	IIaO-e	A	H&K-Ly		
							"				
400/413	3	6.22	dF8	BC	G8/-.025	120μ	IIaO-e	A	H&K-Ly	broken spectrum	
400/440	2-3	"	"	"	"	"	"	A	"		
80/47	2-3	5.3	B3	"	"	"	IIaO-e	A	SB-Ly		
80/100	"	6.1	KoJbp	"	"	"	"	A	H&K-Ly		
400/400	2"	7.0:	B8	"	G16/.7	150μ	098-e	A	SB-Ly		v sl wk
							"				
80/56	2-3	6.5	B3	BC	G16/.7	150μ	"	A	B		fine for kd
80/35	2-3	4.64	F7V	"	"	"	"	A	Std. Uel		fine comp & str
				"	"	"		A		T=55°F F=502	ok

217

Date Aug. 16-17/79 Thurs-Fri Observers Bja-Tn

Emulsion Batches:
4½" 68 098-02E 20049-02089 31,182
7" 68 IIaO-e 02059-12089 21,208

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43828F	Focus Test							Fe/—	15-15
43828	HD 142860	15 51.7	+15° 59'	20 33	20 44	02 13W	+15° 43.9'	Fe/ND No/—	5-5-5 5-5-5
43828T	Spot Calc for 43828.				15 min @	15V D3 4810	7V D1 Hα	7V D2 5450	
43829	HD 157482	17 18.5	+40 04	20 54	22 06	02 08W	+39 57	Fe/ND	7-7-7
43829T	Spot Calc for 43829-30				15 min @	15V D4 3900	D3 4300	D2 4810	
43830	HD 186791	19 41.5	-10° 22'	22 18	22 29	0 07W	10° 31.6'	Fe/ND	7-7-7
~~43831~~	~~HD 199216~~	~~20 50.7~~	~~+49° 09'~~	~~22 47~~			~~49° 23.7'~~	~~Fe/ND~~	~~5-~~

Spectr. Temp.
Focus 501
Spectr. Temp.

Exp. Mtr.	Sec
80/50	[illegible]
400/350	[illegible]
80/64	[illegible]
80/	[illegible]

Spectr. Temp. 63°F Dome Temp./Hum. +62°F/70% Transparency Conditions Cloudy - Cirrus

Focus 5.0

Spectr. Temp. 62°F Dome Temp./Hum. +57/85%

218

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G15/.07	150u	IIaO 0.098	A		blue end sl red red end v sl blue	
80/50	2"	3.85	F6 V	BC	G16/0.7	150μ	098-e	A	Hz std	some cirrus	sl strong
							"				
400/350	1-2"	6.22	dF8	BC	G8/-.025	150u	IIaO-e	A	Hsk-Ly	sl cloudy	
							"				
80/64	2"	2.62	K3 II	BC	G8/-0.25	150μ	"	A	std ve/	cloud - clear	
800/	1-2"	7.51	B1 II	BC	G12/.68	150μ	"	A		cancelled some cloud	

219

Date Aug. 19/20, 1979 Sun/Mon. Observers Gis - Tn

Emulsion Batches:
7m 68° IIa-e 02057 - 16089 20 213
4½ 68° 098-02e 20049 - 16089 15 156

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43831	HD 157482	17h 18.5m	+40° 04'	20:05	22:31	02 46 W	+40 01	Fe/ND	7-7-7
43831T	Spot cal For 43831-32, 34-36.			15 min @ 15V		D4 3900	D3 4300 D2 4810		
43832	HD 195592	20 27.2	+43 59	22:41	00:05	01 11 W	+44 17	Fe/ND	5-5-5
43833	HDE226868	19 54.6	+34 56	00:13	03:22	05 00 W	+35 10	Fe-ND- Ne -	5 [illegible] 5 [illegible]
43833T	Spot Cal'n For 43833.			15 min @	15V D3 4810	7V D1 Hα	7V V2 5450		
43834	HD 13854	02 09.9	+56 36	03:34	04:02	00 36 E	+57 01	Fe/ND4	5-5-5
43835	HD 14818	02 18.2	+56 10	04:05	04:28	00 18 E	+56 32	Fe/ND	5-5-5
43836	HD 12929	02 06.5	+22 59	04:33	04:35	00 05 W	+23 26	"	
43836F	Focus					"	"	Fe	7-7
F2	Focus							Fe Ne/Ar	4-4
F3	"							"	"

new lens for hollow cathode

Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mtr. | Seei

Spectr. Temp. 69°F Dome Temp./Hum. 68°F / 80% Transparency Conditions Cloudy sort of

Focus 498.5

Spectr. Temp. 64.5°F Dome Temp./Hum. 59°F / 100%

220°

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/431	2"-4"	6.22	dF8	BC	G8/-0.25	120μ	IIaO-e	A	SB- Bln/Ly	498.5	Fine sl gng?
							"				
300/300	2"	7.95	097Ia	BC	G12/.68	150μ	"	A	CNO-Bln	+68°F at start	Fine but gng?
400/131	2"	9.74	097Ia	BC	G16/.7	200μ	098-02	A	SB- Bln	+68°F at start	sl wk
							"				
400/92	2"	6.77	B1Ia	BC	G12/.68	150μ	IIaO-e	A	CNO-Bln	+64°F at start se +499.5	Fine
450/92	2"	6.56	B2Ia	BC	G12/.68	150μ	"	A	CNO-Bln		" gng
40/30	2"	3.15	K2III	"	"	"	"	H	ctl vel		str
				"	"	"	"	"		499.5	
								A			
								B	after adjustment		

221

Date AUG 20/21 MON-TUES Observers B.J.-T.

7th 68

Emulsion Batches:
IIaO-e 02059 – 16089 19-200
IIaO-e* 02059 – 12089 20 210
IIaO-e** 02059 – 20089 19 190

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43837 ✓	HD 138406	15 26.9	+42 05	20 04	20 41	+02 52W	+61 46	FE ARC/NDT	5-5-5
43837T	Spot Cal'n	for	43837-44			15min @ 15V	D4 3900	D3 4300	D2 4810
43838	HD 156547	17 13.1	+26 00	20 45	21 42	+02 05W	+25 53	[illegible]	5-5-5
43839	HD 176003	18 53.0	+44 05	21 45	22 22	+01 05W	+44 11	"	5-5-5
43840	HD 190165	19 55.6	+45 11	22 25	23 24	+01 03W	+45 22	"	5-5-5
43841	HD 217695	22 57.4	+47 24	23 30	00 19	-01 02E	+47 48	"	5-5-5
43842	HD 221246	23 25.3	+48 35	00 28	01 08	-00 41E	+48 57	"	5-5-5
43843	HD 222207	23 33.5	+41 57	01 13	01 36	-00 22E	+42 20	"	5-5-5
43844	HD 222416	23 35.3	+44 31	01 40	02 34	+00 35W	+44 57	"	5-5-5
43844T	Spot Cal'n for 43844-45,				15min @	15V D4 3900	D3 4300	D2 4810	
43845	HD 18337	02 51.7	+59 11	02 50	03 55	-01 22E	+59 26	Fe/NO	5-5-5
43846	HD 16855	02 37.1	+43 07	04 00	04 27	-00 34E	+43 24	"	5-5-5
43847 ✓	HD 12929	02 01.5	+22 59	04 32	04 34	+00 09W	+23 20	"	7-7
43847T	Spot Cal'n for 43846-47				15min @	15V D4 3900	D3 4300	D2 4810	
43847F	Focus Test							Fe —	5-5

Spectr. Temp. 72°F ..... Dome Temp./Hum. 68°F / 82% Transparency Conditions Hazy & some cirrus .....

Focus 497.5 221

Spectr. Temp. 66 °F ..... Dome Temp./Hum. 61°F / 100% ..

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5	70/80	2"-3"	6.79	A0	BC	G12/68	120μ	IIaO-e	A	Am MR		Fine
D2 4300	D2 4300								"				
		00/80	3"	7.01	A1	BC	G12/68	120μ	"	A	Am MR	broken spec wed	Fine
		00/80	2"	7.00	A1	"	"	"	"	A	Am MR	"	Fine
		100/80	1"-2"	7.58	A2	"	"	"	"	A	Am MR		vsl wk
"	5	400/82	"	7.50	A0	"	"	"	"	A	Ap MR		Fine but some Fe in Sta Mar
		00/165	"	7.58	K5 III	"	"	"	"	A	MR prog		fine
"		700/80	"	6.77	B9	"	"	"	"	A	Ap MR	T-67.5°F Set 497.5	"
"		400/82	1"	7.45	B9	"	"	"	IIaO-e*	A	Ap MR		fine
									"				
		00/80	1"-3"	7.85	A0	BC	G12/68	120μ	"	A	Am MR	broken spec wed	Fine
		00/81	2-3	6.1	A2	"	"	"	IIaO-e**	A	Am MR	"	Fine
	1.7	10/20		3.15	K2 III	"	"	"	"	A	STD VEL		Fine
									IIaO-e**				
						BC	G12/68	120μ	IIaO	A			vsl blue

223

Date Aug. 21/22 Tues Wed Observers Lg - Tm

Emulsion Batches:
7m 68 IIaO-e 02059 - 20089
5m 68 098-oE 20049 - 16089
6 chad → 5m 68 IIaJ-eb 12108 - 23079 20 226

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43848T	Full Aperture Shift Test					0h +	+4 33	Fe/—	* 14-7
43848F	Focus Test					0h +	"	Fe/—	7-7
43848	HD161096	17 38.5	+4 37	20:04	20:07	00 08W	+04 33	Fe/ND	7-7
43849	HD157482	17 18.5	+40 04	20:13	21 00	01 22W	+39 56	"	7-7-7
43849	Spot Calc. for 43848-49, 51, 52, 54.				15min @ 15V	D4 3900	D3 4300	D2 4810	
43850	HDE 226868	19 54.6	+34 56	21 07	23 10	00 55W	+35 04	Fe/ND Ne-	5-5-5 5-6-5
43850T	Spot Calc for 43850, 53				15min @	15V D3 4810	7V D1 Hα	7V D2 5450	
43851	HD157482	17 18.5	+40 04	23 31	00 55	05 17W	+39 59	Fe/ND	8-8-8
43852	HD218356	23 02.2	+24 56	01 00	01 35	00 13W	+25 17	Fe/ND	8-8-8
43853	HD219634	23 12.2	+61 25	01 39	03 22	01 50W	+61 47	Fe/ND Ne-	6-6-7 6-6-6
43853T	Spot Calc for 43855-56				15min @	175V D4 3900	15V D4 4300	15V D4 4810	
43854	HD 10260	01 35.2	+60 32	03 28	04 17	00 21W	+60 51	Fe/ND	7-14-7
43855	HD 47105	06 31.9	+16 29	04 25	04 35	04 16E	+16 22	Fe-	9-9
43856	"	"	"	04 38	04 44	04 9E	"	Fe-	9-9
43856F	Focus							Fe/—	9/9

Spectr. Temp. +72.5 Dome Temp./Hum. +72°F/70% Transparency Conditions S/Hazy (slow)

Focus 497 → 499

Spectr. Temp. +66 Dome Temp./Hum. +61°F/100%

224

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	70μ*	IIaO	A	*gone dbl because Left Hand window partly obscured comp windows are further apart than on other slits?		rotation 6.5μ - vsable
				"	G12/.68	120μ	"	A			OK
40/23	2"	3.93	K2III	BC	G12/.68	120μ	IIaO-e	A	Std Oel.		v sl str.
400/500	1"	6.22	dF8	"	G8/-.025	"	"	"	HOK-Bln/Ly	meter out of [illegible]	sl str.
							"				
800/160	2-3	9.74	09.7Iab	BC	G16/.7	200μ	098-e	A	SB-Bln		Fine
							"				
400/450	2-3"	6.22	dF8	BC	G8/-.025	120μ	IIaO-e	A	H+K Bln/Ly		Star fine
80/110	2-3	6.14	K0Ibp	"	"	"	"	"	H+K-Ly	T=67°F Set 499	Star fine
80/83	2-4	~7	B8	"	G16/.7	150μ	098-e	A	SB-Ly		
							IIaJ-eb				
40/40	2-3"	5.6	B8	BC	G8/-.025	150μ	IIaO-e	A	SB-Ly		comp wk Fine
40/140	3"	1.9	A0IV	"	"	"	IIaJ-eb	A	ASm-KK	may have been fixed on removal	sl uneven fine comp wk
40/80	"	"	"	"	"	"	"	"	"		sl uneven exp ok comp wk
							IIaO	A			

→ All Comp. wk — & weaker on one side

225 1979

Date Aug 22/23 Wed-Thurs. Observers Gis - Tn

Emulsion Batches: IIaO-e 02059 - 20089 22 206

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43857F	Focus Test							Fe/—	9/9
43857	HD 161096	17h 38.5m	+ 4° 37'	19 45	19 59	00 05W	+04 36	Fe/ND	11-11
43858	HD 157482	17h 18.5m	+40° 04'	20 05	21 42	02 08W	+40 00	Fe/ND	7-7-7
43858T	Spot Calc for 43857-60.				15 min @ 15V		D4 3900	D3 4300	D2 4810
43859	HD 170000	18h 22.2m	+71° 17'	21 55	22 01	01 27W	+71 20	Fe/ND	8-8
43860	HD 199216	20h 50.7m	+49° 09'	22 05	23 50	00 44W	+49 26	Fe/ND	5-5-5
43860T1	Comparison test - decker out					all with new lens		FeNe/Wr6	10
T2	Comparison test - decker in - slit rotated ~10° CCW from outside							FeNe/Wr6	20
T3	Shift test							FeNe/Wr6	10-10
F	Focus test							FeNe/Wr6	20-20
T4	Comparison test on arc - new lens							Fe/—	20
T5	full aperture					old lens		Fe/ND	15-15

Spectr. Temp. 70°F ..... Dome Temp./Hum. 66°F / 78% Transparency Conditions cloudy - hazy .....

Focus 498 226

Spectr. Temp. 68°F ..... Dome Temp./Hum. 63°F / 96%

Comparison Type Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	9/10					BC	G8/-.025	120μ	IIaO	A			cont sl Red in blue vsl Blue in Red
[illegible]	[illegible]	40/32	3-4"	3.93	K2 III	"	"	"	IIaO-e	A	Std. Vel.		Fine
[illegible]	7-7-[illegible]	400/414	3-8"	6.22	dF8	"	"	"	"	A	SB-Bln/Ly	cloud	Fine
[illegible]	[illegible]								"				
[illegible]	[illegible]	40/10	4"	4.18	ApSi	"	G12/.68	150μ	"	A	SB-Bln	70°F	Fine
[illegible]	[illegible]	400/120	4"-8"	7.51	B1 II	"	"	"	"	A	CNO std.	broken 2 pcs saved Thick cloud at end	Fine
[illegible]	10					"	"	70μ		A		F=499 T=66°	
[illegible]	20					"	"	"		A			very strong
[illegible]	[illegible]					"	"	"		A			strong
[illegible]	[illegible]					"	"	"		A			
[illegible]	[illegible]					"	"	"		A			strong
[illegible]	[illegible]					"	"	250μ		A		new clicker	badly [illegible]

2 227

Date AUG. 25/26 SAT-SUN Observers WEST - TN

Emulsion Batches: 760-C 02059-22089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.	Seeing
43861	HD 203842	21h 19.5	+09°44	23:23	02:24	3:04 W	+10 06	Fe/ND	5-5-5	[illegible]	2"
43861T	Spot Calc for 43861-63.			15 min @ 15V		D4 3900	D3 4300	D2 4810			
43862	HD 222368	23 34.8	+5 05	02 39	03 03	1 22 W	+5 32	Fe/ND	5-5-5	400/130	2"
43863	HD 207652 13 PEG	21 45.6	+16°50'	3 09	03 50	3 59 W	+17 13	"	5-5-5	400/60	2-3"
Sunday-Monday Tests											
43863T1	Full aperture	Hollow cathode, new lens + mirror			(Also shift test)			Fe Ne/wr6	15-15		
T2	"	"	"	"	" "	"		Fe Ne/wr6	15-15		

Spectr. Temp. +69°F ..... Dome Temp./Hum. 65°F / 90% Transparency Conditions ... Cloudy .....

Focus ..... 499 .....

Spectr. Temp. +64°F ..... Dome Temp./Hum. 58°F / 99%

228

MAYbe HD 203842 Yes

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	800/233	2"	6.8	F5III	BC	G12/68	150μ	IIaO-e	A	wrong one Mult stars	* MAYbe wrong thrucloud star if RA [illegible]	
[illegible]								"			is same as below. MAYbe set at ≈ 21 24.8	
[illegible]	400/130	2"	4.64	F7V	BC	G12/68	150μ	"	A	Std Vel	thrucloud RA reads 23 33.7 38.4	
"	400/60	2"-3"	6.9	F2III	"	"	"	"	A	mult Stars		
FeNe/ [illegible] 15-15	* Approximate times				BC	G12/68	70μ	IIIaJ	A	T=67F	F=499	sl. str.
[illegible] 5-15					"	"	250μ	"	A	"		v. strong

229

Date AUGUST 27-28 Observers WEST - TN

New D-17 & stop 7m 68°

Emulsion Batches: Hale 02059 - 22089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. *	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43864	HD 203345	21h 16.5m	+09°55'	20:06	22 42	0 32E	+10 16	Fe/ND	9-9-9
43864T	Spot Calb for 43864				15min @ 15V	D4 3900	D3 4300	D2 4810	
43865	HD222368	23h 34.8m	+05° 05'	22:48	22 59	2:34E	+	Fe/ND	9-9-9
43866	HD 203345	21h 16.5m	+09°55'	23:06	00 20	1 06W	+10 14	Fe/ND	9-9-9
43867	HD 203345	21h 16.5m	+09°55'	00:23	01 44	2 30W	"	"	9-9-9
43868	HD 222368	23h 34.8m	+05°05'	01:49	01:58	0:25W	+	"	9-9-9
43868F	Focus Test							Fe/	9-9
43868F2	Focus test - thicker washer between clamp & yoke							FeNa/	5.5
F3	" "				screws removed from ph			"	"

* Begin Time made 20 46 because of thick cloud for 1st 2 40 mins

Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mtr. Seen

Spectr. Temp. 70°F Dome Temp./Hum. 67°F/90% Transparency Conditions Cloudy – semi clear 230

Focus 499 s fog increasing

Spectr. Temp. 68°F Dome Temp./Hum. 61°F/100%+

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	400/138	2-3	V = 6.75	F7V F8V	BC	G12/68	150m	IIIa J-e	A	Mult Star	thru cloud	uneven guiding
[illegible]								"				
[illegible]	40/13	2-3	4.64	F7V	BC	G12/68	150m	"	A	std vel		v sl str.
[illegible]	400/130	2"-1"	V 6.75	F7V -F8V	"	"	"	"	A	Mult Star		exp fine focus fair
"	400/130	"	"	"	"	"	"	"	A	"		"
"	40/13	2"	4.64	F7V	"	"	"	"	A	std vel		v.sl.str. focus fair
[illegible]					"	"	"	IIIa J-e	A			sl red
[illegible]					"	"	70μ	IIIa J	A		F = 500 T = 70°	
"					"	"	"	"	B			

231

Date Aug 29/30 Wed/Thurs Observers KK - Bts

Emulsion Batches:
IIIaJe 12108 - 23079
098.02 20049 - 16089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43869F1	focus							FeNe/—	5-5
43869	HD 159561 (α Oph)	17h 30m.3	+12° 38'	21 29	22 00		+12° 38'	Fe/—	9
T1	full aperture							FeNe/—	6-6
T2	decker out							FeNe/—	6
T3	full aperture							FeNe/—	6-6
T4	"							"	3-3
T5	decker out							FeNe/—	3
T6	full aperture							FeNe/—	15-15
T7	full aperture — grating tilt test							Fe/—	25-25
T8	"	"						Fe/—	35-35
T9	"	"						Fe/—	10-10
T10	"	"						Fe/—	10-10

Spectr. Temp. ..72°..... Dome Temp./Hum. ..70°F/.198% Transparency Conditions ..v..hazy.....

Focus .....50.3..... 232

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	5-5					BC	GR/.68	120μ	IIIaJ	B		72° F=503 remounted 120 slit	[illegible]
[illegible]	9	40/120	[illegible]	2.2	A5III	"	"	"	IIIaJc	B	[illegible]		
[illegible]	[illegible]					"	"	"	IIIaJ	A		old washer back on yoke 72° F=497	grating covered
[illegible]	6					"	"		"	A			blank
[illegible]	[illegible]					"	"	"	"	A			
	33					"	"	250μ	"	A			
[illegible]	3					"	"	25[illegible]μ	"	A			
[illegible]	15					"	GR/.2	70μ	"	A			[illegible]
[illegible]	[illegible]					"	G8/-.005	70μ	"	A			
[illegible]	[illegible]					"	G8/-.04	"	"	A			blank
[illegible]	[illegible]					"	G16/.72	"	09800e	A			
[illegible]	[illegible]					"	G16/.68	"	"	"			

233

Date Aug 30/31 Thurs/Fri Observers Bjo - Bts

7½m 68°

Emulsion Batches: IIaOe 02059-22089
02059-31089

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
70F	focus							Fe/–	4-4
	~~HD 191781~~	~~20h 06.6m~~	~~45° 06'~~	~~20 00~~			~~45° 20'~~	~~Fe/ND4~~	
43870	HD 170000	18h 22.2m	71° 17	20 45	20 48	00 45	71° 20.6	Fe/ND4	4-4-4
43871	HD 192422	20 09.7	38 28	20 57	22 11	00 17	38° 43	"	4-4-4
43872	HD 192660	20h 10.9m	+40° 01'	22 19	00 22	02 27	+40° 17'	"	4-4-4
43873	HD 195592	20 27.2	43° 59	00 29	02 11	04 01	44° 16.8	"	44
73T ✓	spot cal for	43870 – 74		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43874	HD 215733	22h 42.2m	+16° 43'	02 18	03 03	02 36	+17 09	Fe/ND4	4-4-4
43875	HD 213307	22 25.5	57 54	03 10	03 23	03 11	58 19.6	"	4-4-4
43876	HD 12323	01 55.8	55 08	03 32	05 01	+01 20	55 31.8	"	3-3-3
76T ✓	spot cal for	43875/76/77		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43877	HD 12927	02 01.5	22 59	05 07	05 09	01 23	23 22.5	Fe/ND4	3-3-3
77F	focus							Fe/–	3-3

Spectr. Temp. ...74°..... Dome Temp./Hum. ..68°F/78%. Transparency Conditions ...v. good.....234....

Focus .....496.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/ .68	250μ	IIaOe	A		74° 496	cent Red v fuzzy
300 /		10.18	(Iab) ON 9.7								
40 / 8	3"	4.18	Ap Si	"	"	150μ	"	A	SB Bln		arc on stellar
400 / 120		7.60	Ib B0.5	"	"	"	"	A	CNO		Fine
100/130		8.17	B0Ib	"	"	"	"	A	CNO	72° 497	Fine
100/ 151		7.95	Id 0 9.7	"	"	"	"	"	"		"
							"				
100/70		7.80	B1 II	"	"	"	"	A	CNO	67° 499	Fine
200/32		6.3	B7 V	"	"	"	"	"	SB Bln	new box of plates	gng Fine
400 / 76		8.88	ON9 V	"		[illegible]		"	"		v wk
							"				
40 / 36		3.15	K2 III	"	"	"	"		std vel		focus Fine
							"			65° 499	cent Red bad focus

235

Date Aug 31/Sept 1 Fri/Sat Observers Bln - Bts

Emulsion Batches:
7¼ 68° IIaOe 02059 - 31089 20 183
IIIaJe 12108 - 23079

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43878F	focus							FeNe/—	~~4-4~~
43878	HD 191781	20h 06m.6	+45° 06'	19 54	23:08	01 22W	+45° 20'	Fe/ND4	3-3
✓ 78T	spot cal for	43878 -		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		

Spectr. Temp. ....70°..... Dome Temp./Hum. 68°F/90% Transparency Conditions ..clear - some cloud..

Focus .....499..... 236

Spectr. Temp. ....68°..... Dome Temp./Hum. 64°F/100%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/Ar	4-4					BC	GL2/.68	150μ	IIIaJe	A		70° 499	[illegible]
Fe/Ne	3-3	800/76	3-4	10.18	ON 9.7 Iab	BC	"	250μ/.3	IIaOe	A	CNO SB-Bln		[illegible]

237

7'4 68°

Emulsion Batches: IIaOe 02059–31089

Date Sept 1/2 Sept Sun Observers RK – Bots

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
43879	HD 161797	17 42.5	+27 47	19 44	20 11	0 51 W	+27 45	Fe/NaO4	4-4-4	40/15	
77F	focus							Fe/–	4-4		
43880	HD 194093	20 18.6	+39 56	20 20	20 30	1 26 E	+40 11	Fe/–	4-4-4	40/15	
43881	HD 150117	16 33.9	+53 08	20 42	21 15	3 04 W	+52 58	Fe/–	4-4-4	400/26	
81T	strip cal for	43879–81									

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. 74° Dome Temp./Hum. 79°F 94% Transparency Conditions v. hazy, thin cloud 238

Focus 496

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/15		4·2	G5III	BC	GR/68	120μ/.5	IIaOe	A	Waterloo	74° 496	fine
				"	"	"	"	A			v. good
40/15		2·9	F8	"	"	"	"	A	"		v. good
100/26		5·6	A2	"	"	"	"	A	"	clouded out	wk
						90sec	IIaOe				v. wk

239

1979

Date Sept 2/3 Sun-Mon Observers Ron-Bts

7¼ 68°

Emulsion Batches: IIaDe 02059-01099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43882F	focus							Fe/-	4-4
43882	HD186688 = SUGg	19h 40.8	+29° 01	23:07	00h 28	3h 14 W	+29° 16.8	Fe/ND4	4-4-4
43882T	spot cal for	43882 -83		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
43883	HD 222368 = iPsc	23h 34.8	+5° 05	00h 37	00h 47	00h 22E	+5° 33	Fe/ND4	4-4-4

Spectr. Temp. ...74°..... Dome Temp./Hum. ..... Transparency Conditions ..V..hazy..... ;240

Focus .....496.....

Spectr. Temp. ..... Dome Temp./Hum. 69°/.100% +

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150μ	IIaOe	A		74° 496	ok
400/140	2"	68-27	F0-G1	"	"	"	"	"	Ceph/Evans		vsl wk
							"				
40/11		464	F7I	"	"	"	"	A	Std vel	humidity too high	fine

241

Date Sept 3/4 Mon/Tues Observers But - Bts

T¼ 68°

Emulsion Batches: IIaOe 02059 - 01099 20 196

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43884F	focus							Fe/-	4-4
43884	HD 138406	15h 26.8m	+62° 05'	19h 28m	20 52	+03 57w	+61° 50'	Fe/ND4	4-4-4
~~43885~~	~~HD 176003~~	~~18h 53.0~~	~~+44° 05'~~	~~21h 06m~~			~~+44° 12'~~	~~Fe/ND4~~	~~4~~
43884T ✓	spot cal for	43884-		15min 15V	D4 vwk ① 3900	D3 ② 4300	D2 ③ 4810		

Spectr. Temp. 73° Dome Temp./Hum. 66°/83% Transparency Conditions clear

Focus 497

Spectr. Temp. ..... Dome Temp./Hum. .....

242

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ/15	IIaOe	A		73° 497	[illegible]
400/90	4-6	6.79	A0	"	"	"	"	"			fine
300/		7.00	A+	"	"	"	"	"		clouds	

243

Date 4/5 Sept. Tues/Wed. Observers Blu - Bts

7¼ 68° Emulsion Batches: IIa-OE 02059-04099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43885F	Focus							Fe/-	4-4
43885	HD192660	20h 10m.9	+40° 01'	19 33	21 39		+40° 17'	Fe/ND4	4-4-4
43886	HD 195592	20h 27m2	+43° 59'	21 46	22 58	+01 06W	+44° 15'	Fe/ND4	4-4-4
86T ✓	spd cal for	43885 -		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
86F	focus							Fe/-	4-4
Tests	Sept 5-6 ↓								
43886 F2	Focus Test							FeNe/wr 6	10-10
43886 F3	" "		Reverse order	(S[illegible] comp)				"	"
43886 F4	" " with additional fld Lens		"	"	"			"	"
	Sept 6								
43886 F5	Focus test							FeNe/wr 6	15 - 15
F6	"							"	"
F7	"							"	"

Spectr. Temp. 69°F..... Dome Temp./Hum. 66°F./87% Transparency Conditions ... clear ..... 244.....

Focus 498.....

Spectr. Temp. 66°F..... Dome Temp./Hum 62°F./100+%

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					13C	G12/.68	150μ	IIa-0E	A		69° 498	vslred
	800/270	2-3	8.17	B0Ib	BC	G12/.68	150μ	IIa-0E	A	CNO	Power failure @ 2/3 exposure	fine
	800/300	2	7.95	B9.7Ia	"	"	"	"	A	CNO		fine
								"				
								IIaO	A		67° 498	sl. red
											humidity too high.	
	Problems noted with				BC	G12/.62	120μ	IIaJ	A	good tension	72°F 49Z	
	Aperture mask switching				"	"	"	"	B	changed shims to get same tensions as "A"		-11μ
					"	"	"	"	B			-11μ
				T=74°	F=498							
					BC	G12/.68	120μ	old IIaJ	B	after .0013 CW rotation of focusing mount		-11μ
					"	"	"	"	B			-11μ
					"	"	"	"	A			

245

Date 6-7 Sept Thurs-Fri Observers Tn. f. Sane. Kk.

Emulsion Batches: Ila-e 02059 - 04099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43887 F1	Focus Test	May have failed due to faulty Comp → Stellar switching					+4 35	FeNe/wr 6	15-15
43887 F2	"	Done in Reverse		stellar → comp.			+4 35	"	"
43887	HD 161096 R Oph	17 32.5	+4 37	19 29	19 35	0 37W	+4 35	Fe/ND	6-6
43888	"	"	"	19 37	19 43	0 45W	"	"	6-6
43889	HD 195592	20 27.2	+43 59	19 51	21 27	0 18E	+44 13	"	4-4-4
43889 T	Spot Cal. for 43887-97.				15 min @ 15V	D4 3900	D3 4300	D2 4810	sl. str.
43890	HD 202109	21 08.7	+29 49	21 41	22 11	00 17E	+30 07	FeNe/wr 6	4-4
43891	HD 215182	22 38.3	+29 42	22 13	2235	01 22E	+30 04	FeNe/wr 6	4-4
43892	HD 215733	22 42.7	+16 43	22 42	2335	00 26E	+	Fe/ND	4-4
43893	HD 203156 HR 8157	21 15.4	+37 49	23 43	00 58	02 25W	+38 08	"	4-4-4
43894	HD 13854	02 09.9	+56 36	01 08	01 40	01 50E	+56 58	"	4-4-4
43895	HD 14143	02 12.2	+56 43	01 55	02 54	00 38E	+57 03	"	4-4-4
43896	HD 14818	02 18.2	+56 10	02 28	03 22	00 17E	+56 30	"	4-4-4
43897	HD 16429	02 33.1	+60 51	03 33	04 15	00 22W	+61 11	"	4-8
43897 F	Focus test		Stellar Comp					FeNe/wr 6	15-15
F2 F3	"							"	"

Spectr. Temp. 74°F Dome Temp./Hum. 73°F / 85% Transparency Conditions Fine 246

Focus 497 - 501

Spectr. Temp. 66°F Dome Temp./Hum. 68°F / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150μ	IIIa J old	B			
				"	"	"	"	A			
40/18	3"	3.93	K2III	"	"	"	IIaO-e	B	sl vel		sl strong Fine
40/20	3-4	"	"	"	"	"	"	A	"		rod blurry Fine
400/157	3-6"	7.95	C9.7Ia	"	"	"	"	B	CNO Bln	focus prob wrong	sl wk, gng focus
							"				purely fixed
40/120	4"	4.20	G8II	BC	G8/.2	120μ	"	B	Spec Std	T=72° F=501	str comp str
40/100	"	3.8	G8II + F	"	"	"	"	B	Arm Spec KK		str comp str
400/70	3"	7.80	B1II	"	G12/.68	150μ	"	B	CNO Bln		Fine
400/250	3-5"	5.89 mv	F2	"	"	120μ	"	B	Ceph-Rm	71°F	Fine
400/95	4"	6.77	BJ Jab	"	"	150μ	"	B	CNO-Bln		v sl wk
400/130	3-4"	7.17	B2Ia	"	"	"	"	B	"	Cloud Fld altered	"
400/92	"	6.56	" "	"	"	"	"	B	"	66°F	Fine
800/42	3"	8.29	O9.5II((n))	"	"	" *	"	B	"	* Can easily see st comp on TV no 200μ slit available	v wk
				"	"	"	[illegible]	B			sl blue
				"	"	120μ	II 20 !!	A B		T=65° F=502	0μ -6μ

247 2 Kg Tours

Date Sept 8-9 Sat-Sun. Observers T.M.

Emulsion Batches: IIaO-C 02059-04099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43898	HD 191781	20 06.6	+45 06	21 28	01 27	4 12 W	+45 19	Fe/ND	3-3-3
43898T ✓	Spot Calib for 43898-43900				15 min @ 15V	D4 3900	D3 4300	D2 4810	
43899	HD 12993	02 02.1	+57 27	01 37	0303	0 11E	+57 50	Fe/ND	3-3-3
43900	HD 15690	02 26.3	+57 05	03 10	0358	0 21W	+57 25	"	3-3-3
43900F	Focus Test							Fe/—	3-3

Spectr. Temp.
Focus ....
Spectr. Temp.

Exp Mtr	Sec
[illegible]/20	3
[illegible]/140	3
[illegible]/180	?

Spectr. Temp. +58°F ..... Dome Temp./Hum 52°F / 88% Transparency Conditions Fine → thin cloud 24h

Focus 502 - 506

Spectr. Temp. +52°F ..... Dome Temp./Hum. 46°F / 96%

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	800/200	3"-5"	10.18	ON9.7ab	BC	G12/68	1.5 250μ	IIa O-e	B	CNO-Bln	some thin cloud 2nd half	
[illegible]									"			Big Temp drop ↑ during	
[illegible]	[illegible]	800/140	3"	9.20	OG5V	BC	G12/68	250μ /.3	"	B	CNO Bln	T=54°F set 506	
"	[illegible]	800/180	3"	8.66	B1.5Ib	"	"	"	"	B	"		
[illegible]	[illegible]					"	"	"	"	B	T=52°F set 506		vs lead

249

Date Sept 9/10 Sun/Mon Observers Ly Bts / Bts

Emulsion Batches: 7m69 IIaOe 02059-07099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43901F	focus							Fe/-	6-6
43901	HD157482	17 18.5	+40 04	19:36	20:36	02 12W	+40 02	Fe/ND4	6-6-6
43902	"	"	"	20:40	21:50	03 25W	"	"	6-7-7
02T	spot cal for	43901-07		15V 15min	D4 (1) 3900	D3 (2) 4300	D2 (3) 4810		
02F	focus							Fe/-	7-7
43903	HD218356	23 02.2	+24 56	20:00	22:54	01 14E	+25 23	Fe/ND4	7-7-7
43904	HD 191781	20 06.6	+45° 06'	23:15	01 59.	+04 49W	+45° 23'	Fe/ND4	4-4-4
43905	HD 203156	21 15.4	+37° 49'	02 12	03 40	+03 54W	+38° 12'	Fe/ND4	4-4-4
43906	HD 13854	02 09.9	+56 36	03 53	04 28	+01 11W	+56 57	Fe/ND4	4-4-4
43907	HD 12929	02 01.5	+22 59	04 42	04 47	+01 39	+23 24	Fe/ND4	4-4-4
07F	focus							Fe/-	4-4
	Sept 10/11	Bts	focus tests						
07F2	focus							Fe/-	4-4
07F3	focus							Fe/-	4-4

Spectr. Temp. 60° Dome Temp./Hum. 59 / 78% inside Transparency Conditions sl. haze 250

Focus 501

Spectr. Temp. 59° Dome Temp./Hum. 54° / 92%

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 6-6					Bc	G8/-.025	120/.5	IIaOe	A		60° 501 blue end sl blue red end sl blue	
Fe/[illegible] 6-6	400/470	3"	6.2	df8	"	"	120/.5	"	A	H&K - Bl/Ly	wrong focus acc to KK	sl. strong
" 6-7	400/500	"	"	"	"	"	"	"	A		focus reset to 505	sl. str.
Fe/- 7-[illegible]					"	"					red end sl blue	bl end v red
Fe/[illegible] 7-7	200/310	"	6.04	KoIbp	"	"	120/.3	"	A	H&K - Ly		sl str
Fe/[illegible] 7-[illegible]	400/70	2-3	10.18	ON9.7 Iab	"	G12/.68	250/.3	"	A	CNO Bln	seeing deteriorated to 4" haze + scattered cloud	fine
Fe/[illegible] 4-4	400/250	2-3	5.89	F2	"	G12/.68	120/.5	"	A	Ceph - Rm	60° 505	sl str.
Fe/[illegible] 4-4	400/100	"	6.77	BlIab	"	"	"	"	A	CNO Bln	60° 505	fine
Fe/[illegible] 4-4	40/16	"	3.15	K2III	"	"	"	"	A	std vel		ok, sl. uneven
Fe/- 4-4					"	"	"	"	A		clouds 59° 505	v sl red
Fe/- 4-4					Bc	G12/.68	120/.5	IIaO	A		62° 504	No Comp
Fe/- 4-4					"	"	"	"	B			No Comp

251

Date 1979 Sep 11 Observers KK

Emulsion Batches: 3m 69° old (Sep 74) III aJ

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43907 F4	Focus test							FeNe/—	15.15
F5	"							"	"
T1	Shift test							[illegible]	10-10
T2	"							"	10-10
T3	"	and rotation test							
T4	"							"	
T5	"							"	
T6	"							"	
T7	"							"	"

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....252...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120/1.0	IIIaJ	A		56° 505	cl blue
				"	"	120/1.0	"	B			cl blue
				"	"	"	"	A			
				"	"	"	"	B			
				"	"	150/1.0	"	A			
				"	"	"	"	B			
				"	"	200/1.0	"	A		(with broken long —	
				"	"	"	"	B		perhaps usable?)	
				"	"	250/1.0	"	B			

253

Date SEPT. 11/12 TUES/WED Observers Bat-Tr

7m 68°

Emulsion Batches:
IIaO-e 02059-07099
IIaO-e* 02059-10099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43908F	FOCUS							FE/—	4-4
43908	HD 186791 (8 Aql)	17 41.5	+10 22	19 10	19 13	-01 27 E	+10 37	FE/ND	4-8
43909 ✓	HD 156547	17 13.1	+26 00	19 19	20 11	+01 59 W	+25 57	"	4-4-4
43909T ✓	Spot Calib for 43908-12.					15 min @ 15V		D4 3900	D3 4300	D2 4810
43910	HD 176003	18 53.0	+44 05	20 15	21 00	+01 10 W	+44 12	FE/ND	4-4-4
43911	HD 202313	21 09.9	+30 33	21 04	23 14	+01 05 W	+30 53	"	4-4-4
43912	HD 222201	23 33.5	+41 57	23 18	00 13	00 19 E	+42 24	"	4-4-4
43913	HD 222416	23 35.3	+44 31	00 21	01 59	01 26 W	+44 59	"	4-4-4
43913T ✓	Spot Calib for 43913-16.				15 min @ 15V		D4 3900	D3 4300	D2 4810
43913F1	Focus Test					01 30 W	+45°	Fe/—	14-14
43913F2	" "					"	"	"	"
43914	HD 2019	00 19.4	+30 49	02 16	03 06	01 49 W	+31 17	Fe/ND	5-5-5
43915	HD 16855	02 37.1	+43 07	03 13	03 48	00 12 W	+43 28	"	5-5-5
43916	HD 26571	04 07.0	+22 09	03 59	04 32	00 33 E	+22 24	Fe/ND FeNe/ND	5-5-5

FeNe 1st, then back to Fe for 2nd & 3rd

Spectr. Temp. ...60°F..... Dome Temp./Hum. 60°F / 75% Transparency Conditions ...Hazy in South... 254
Focus .....506..... Cloud from NW
Spectr. Temp. ...55°F..... Dome Temp./Hum. +48°F / 100%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	G121.68	120μ	IIaO				ok
	4.8	40/20	2-3	4.15	K3II	BC	G121.68	120μ	IIaO e	B	STD VEL		fine
	4.4	400/98	2"	7.09	A1	"	"	"	"	B	Am MR		v sl str
									"				
	4.4	00/100	2"-4"	7.00	A1	BC	G121.68	120μ	"	B	Am MR		v sl str comp wk
	4.4	00/100	3-4"	7.56	B9	"	"	"	"	B	Ap MR	Some Cloud	v sl str
	4.4	400/100	1"-3"	6.77	B9	"	"	"	"	B	"		v sl str
	4	400/100	"	7.45	B9	"	"	"	IIaO-e*	B	"		uneven comp wk
									"				
						BC	G121.68	120μ	IIaJ	B	Set 506	Cloud	wk
						"	"	"	"	A	" "		TOO wk
	5.5	400/100	2"-3"	6.78	B9	"	"	"	IIaO-e*	B	Ap MR	T: 56°F Set 508 Some Cloud	
"	5.5	400/75	"	6.7	A2	"	"	"	"	B	Am MR		fine
	5.5	400/100	3-4	6.11	B8	"	"	"	"	B	Ap MR		fine comp str

Note - All Fe Arcs may be wk due to faulty Fe Arc system

255

Date Sept 12/13 Wed/Thurs Observers Rm-Tn

Emulsion Batches: 7m 68° IIa-O 02059-10099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43917F1	FOCUS							Fe/-	20-20
43917F2	FOCUS							Fe/—	20-20
43917	β Oph = HD 161096	17h 38.5	+4° 37	19h 09	19h 13	00h 39 W	+04° 34.8	Fe/NDx4	6-6
43918	HD 187929 = η Agl	19 47.4	0° 45	19h 17	19 28	1h 15E	0° 57.4	Fe/NDx4	6-6
43919	HD 186688 = 20 Cyg	19 40.8	+29° 01	19h 32	21h 32	0h 57 W	+29° 10.3	Fe/NDx4	4-4-4
43919T ✓	SPOT CALIB for 43917-24.				15 min @ 15v		D4 3900	D3 4300	D2 4810
43920	HD 185758 = α Sgc	19h 35.6	+17° 47	21h 40	21h 59	01 29W	+17° 56.6	Fe/NDx4	6-6
43921	HD 182835 = ν Agl	19h 21.4	+0° 08	22h 04	22h 35	2h 19 W	+0° 16.6	Fe/NDx4	4-4-4
43922	HD 195295 = 41 Cyg	20h 25.3	+30° 2'	22h 40	22h 52	1h 33 W	+30° 16.2	Fe/NDx4	4-4-4
43923	HD 209750 = α Agr	22h 10.6	-0° 48	23h 56	23 07	0h 11 W	-0° 26.7	Fe/NDx4	4-4-4
43924	HD 198726 = T Vul	20h 47.2	+27° 52	23h 11	01 01	3 19W	28° 09.3	Fe NDx4	4-4-4

Spectr. Temp. 62.5°F Dome Temp./Hum. 61°F / 90% Transparency Conditions Hazy 256

Focus 505

Spectr. Temp. 60°F Dome Temp./Hum. 57°F / 101%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	120μ	IIIaJ	B			
				BC	G12/.68	120μ	IIIaJ	A			
40/19		3.93	K2III	BC	G12/.68	120μ	IIaOE	B	std vel		v sl str
40/26	2"	~4	F6III-G1	BC	G12/.68	120μ	IIaOE	B	Ceph/Rm		sl str
100/273	2"-4"	6.8-7.7	F0-G1	BC	G12/.68	120μ	IIaOE	B	Ceph/Evans	Marked 97 on plate Slit on edge of next step	v sl str
							"			62°F spectrograph	
40/26	3"	4.4	G0II	BC	G12/.68	120μ	IIaOE	B	Ceph/Evans		v sl str
40/26	3-5	6.2	F2Ib	"	"	"	"	B	"		v sl str
80/53		4.93	F5II	"	G12/.68	120μ	IIaOE	B	Ceph/Evans		sl str
40/27	4"	2.9	G2Ib	"	G12/.68	120μ	IIaOE	B	Ceph/Evans		v sl str
100/101	3"-6"	~6.4	F5Ib-G0	"	G12/.68	120μ	IIaOE	B	Ceph/Evans	Cloudy 1" bright off	fine

#1 LARGE RASC TOUR

257 Fri-Sat

Date Sep 14-15 /79 Observers Th - KK

* * IIaO-e 02059 12099

Emulsion Batches: IIaO-e 02059-10099 22 2

5m 68° IIIaJ-e 12108-01099

9m 69° HIE Oct 77 30 156

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43924F1	Focus Test							Fe/—	14-14
43924F2	" "							Fe/—	5-5
43925	HD161096	17 38.5	+4 37	19 05	19 12	0 45W	+4 36	Fe/ND	6-6
43925T ✓	Spot Calib for 43925, 29-31.			15min @ 15V	D4 3900	D3 4300	D2 4810		
43926	HD 159561	17 30.3	+12 38	21 33	21 52	03 34W	+12 34	FeNe/wrt 6	2-2
43927	HD 215182	22 38.3	+29 42	22 03	22 52	00 32E	+30 06	Ne/—	30-30-3
43927T ✓	Spot Calib for 43926, 36.			15min @	17.5V D4 13900	15V DA 4300	~~15V D4~~ ~~4810~~		
43928	αUMi HD 8890	1 22.5	+88 46	23 04	23 29	03 39E		Ne/—	30-30-3
43928T	Spot Calibration for 43927-8			15m 7½V	D3 8464	7680	7080		
43929	HD 203156	21 15.4	+37 49	23 38	01 03	03 01W	+38 10	Fe/ND	5 5-5
43930	HD14143	02 12.2	+56 43	01 18	02 08	00 53E	+57 03	"	4-4-4
43931	HD14818	02 18.2	+56 16	02 15	02 39	00 28E	+56 29	"	4-4-4
43932	HD 13854	02 09.9	+56 36	02 47	03 15	00 16W	+56 58	"	4-4-4
43933	HD 30614	04 44.1	+66 10	03 22	03 25	02 11E	+66 18	"	4-8
43934	HD 25638	03 59.0	+62 03	03 33	04 19	00 30E	+62 15.4	"	4-4-4

Spectr. Temp. 62.5 °F ..... Dome Temp./Hum. +59°F / 82 % Transparency Conditions .. Fine 258

Focus ..... 505 - 506.5 - 508

Spectr. Temp. ..... Dome Temp./Hum. ..... /

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	G12/.68	120μ	IIIa-J	B			bl. sl. blue vd. sl. red
						"	"	"	IIaO	A		red ok bl. sl red.	wk
	5-6	40/22	3	3.93	K2 III	"	"	"	IIaO-e	B	std vel		
									"				
	2-2	40/140	6"	2.2	A5 III	BC	G12/.68	120μ	IIIa-e	B	asm sp KK		sl. str
		40/130		V= 2.9	G8 II? + F?	"	G24/.875 **	120μ *	HIE	B	asm sp KK	* V Filter in T=60°F Set 506.5	some fog fine
						** Should be .9 ↑			IIIa-e				
		40/140	5"	V= 2.1	F8	BC	G24/.875	120μ	HIE	B	asm sp KK	RA read 2h25m	some fog fine
									"				sl. wk.
	5-5	400/255	5"	5.89	F2	BC	G12/.68	120μ	IIaO-e	B	ceph - Rm	T=59°F cloud	sl str
	4-4	400/135	4-6	7.17	B2 Ia	"	"	150μ	"	B	CNO - Bln		v. sl. str
	4-4	400/95	4-6	6.56	B2 Ia	"	"	"	"	B	"		v sl str
	4-4	400/93	"	6.77	B1 Iab	"	"	"	IIaO-e *	B	"	T=56°F Set 508	
	4-?	40/7	4"	4.32	O9.5 Ia	"	"	"	"	B	"		sl str
	4-4	400/90	3-4	7.12	B0 V	"	"	"	"	B	EB Bln	North one	v sl str

OVER →

259

Date Sep 14-15 Cont. Observers T.H.

Emulsion Batches: 22 222

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seeing
43935	HD 25639	03 59.0	+62 03	04 20	05 01	0 11 W	+62 15.2	Fe/ND	4-4-4	4.5/90	3"
43935T	Spot Calib for	43932-35.		15min @	15V 3900 D4	4300 D3	4810 D2				
43936	HD 47105	06 31.9	+16 29	05 07	05 17	2 01 E	+16 24	FeNe/wgt 6	2-2	40/139	3"

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....2.60...

Focus .....508.....

Spectr. Temp. 53.....°F..... Dome Temp./Hum. 50°F / 96%

Comparison Star Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	144.4	400/90	3"	7.15	B0 V	BC	G12/1.58	150μ	IIaO-a	B	EB Bin		v sl str
									"				
	2-2	40/130	3"	1.9	A0 IV	BC	G12/1.66	120μ	IIIaJe	B	KK prog		sl. strong

261 Page #1

Date Sep. 16-17 Sun Mon. Observers Tn (KK had a boy so wasn't here)

Emulsion Batches:
7m 68° IIaOe 02059 - 12099
IIIaOe 12108 - 01099 22 201

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43937 F1	Focus Test	} Comparison of 612 & G8				0" 15W	+29 20	Fe/—	23-23
43937 F2	" "					"	"	Fe/—	23-23
43937	HD 137909 R.C.B	15 23.7	+29 27	19 11	19 19	03 15W	+29 13	Fe/ND	8-8
43938	HD 159561 + Oph	17 30.3	+12 38	19 27	19 41	01 30W	+12 35	FeNe/wet 6	2-2
43938 T ✓	Spot Calc for	43938		15 min @	17.5V D4 3900	15V D4 4300 15V D4 4810			
43939	HD 161096	17 38.5	+4 37	19 47	19 54	01 35W	+4 35	Fe/ND	8-8
43940	"	"	"	20 06	20 11	01 52W	"	"	6-6
43940 T ✓	Spot Calc for 43937, 39-				15 min @	15V D4 3900	D3 4300	D2 4810	
43941	HD 195592	20 27.2	+43 59	20 38	21 38	00 31 W	+44 15	Fe/ND	4-4
43942	HD 199216	20 50.7	+49 09	21 42	22 26	00 57 W	+49 29	"	4-4
43943	HD 215733	22 42.2	+16 43	22 33	23 06	00 16 E	+17 10	"	4-4
43944	HD 6182	00 57.8	+61 18	23 17	00 14	01 25 E	+61 41	"	3-3-3
43945	HD 12993	02 02.1	+57 27	00 19	01 35	01 08E	+57 49	"	3-3-3
43946	HD 15690	02 26.3	+57 05	01 39	02 16	00 51E	+57 25	"	3-3-3
43947	HD 16832	02 36.9	+56 14	02 21	03 50	00 32W	+56 33	"	3-3-3

Spectr. Temp. 65°F ..... Dome Temp./Hum. 64°F / 70% Transparency Conditions Fine sl haze 262

Focus 505-507 .....

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	G12/.68	120μ	IIIa J-e	B			
[illegible]					"	G8/-.025 G16@	"	"	B			
[illegible]	40/20	1"-2"	3.93	F0p	"	"	"	IIa D-e	B	Hsm Sp KK		v sl str
[illegible]	40/180	"	2.2	H5 III	"	"	"	IIIa J-e	B	"	sl str	strong [illegible]
								"				
[illegible]	40/29	2"	3.93	K2 III	BC	G8/-.025 G16	120μ	IIa D-e	B	Std Vel	To compare G8 vs G12	fine
[illegible]	40/20	3"	"	"	"	G12/.68	120μ	"	B	"	T=65°F	v sl str
[illegible]								"				
[illegible]	400/150	1"-2"	7.95	O9.7Ia	BC	G12/.68	150μ	"	B	CNO-Bh	T=64°F	v sl str
[illegible]	400/140	2"	7.51	B1 II	"	"	"	"	B	"		v sl str
[illegible]	400/70	2"-4"	7.80	B1 II	"	"	"	"	B	"	T=[illegible] shattered [illegible]	
[illegible]	300/180	3"-6"	8.70	B0.5 IIp	"	"	.3 250μ	"	B	"		v sl str
[illegible]	300/112	2"-5"	9.20	O6.5 V	"	"	"	"	B	"		fine
[illegible]	300/125	3"	8.66	B1.5 Ib	"	"	"	"	B	"	T=61°F set 507	fine
[illegible]	300/136	3"-5"	9.25	O9.5 II	"	"	"	"	B	"		fine
											Cont Over →	

263 #2

Date Sep 16-17 Observers Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43948	HD 16429	02 33.1	+60 51	03 57	05 13	01 58 W	+61 11	Fe/ND	4-4-4
43949	HD 24398	03 47.8	+31 35	05 17	05 18	0 49 W	—	"	6-6
43949F	discarded Focus					"	+32°	Fe/—	16-16

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 264

Focus ..... 507 .....

Spectr. Temp. 60 °F ..... Dome Temp./Hum. 55°F / 96%

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible] 4-4	400/100	1"-3"	8.29	0.85 II(n)	BC	G12/1.68	150u	IIaJe	B	CNO B/n		fine
" 6-6	90/7	"	2.96	B1 Ib	"	"	"	"	B	"		sl str
[illegible] 16-16					"	"	"	IIIaJe	B			no comp?

265

Mon - Tues

Date Sept 17-18 /79 Observers Bat-Tu

Emulsion Batches: 16 19

7m 68°F IIaO-e 02059-17099

41.4 68°F 098 .25

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43950F1	Focus Test					0h	+4 36	Fe/-	7-7
43950F2	" "					0h	"	"	7-7
43950	HD 161096	17 38.5	+4 37	18 59	19 03	+00 48W	+04 36	Fe [illegible]	7-7
43951	HD 156547	17 13.1	+26 00	19 07	19 47	+01 58 W	+25 57	"	5-5-5
43952	HD 176695	18 56.4	+28 33	19 52	23 05	03 33 W	+28 40	"	5-5-5
43952T	Spot Calc for 43950-			15 min @ 15V		D4 3900	D3 4300	D2 4810	
43953	HD 217695	22 57.4	+47 24	23 10	00 29	+00 57W	+47 52	Fe/ND	5-5-5
43954	HD 222207	23 31.5	+41 57	00 34	01 23	+01 14 W	+41 22	"	5-5-5
43955	HD 222416	23 35.3	+44 31	01 25	02 58	+02 48 W	+44 59	"	5-5-5
43956	HD 18337	02 51.7	+59 11	03 03	04 39	+01 [illegible]W	+59 30	"	5-5-[illegible]
43956F1	focus & rotation test							FeNe/ND	2-2
F2	"							"	"
F3	focus test							Fe/—	10-10

Spectr. Temp. 67°F ..... Dome Temp./Hum 67°F / 69% Transparency Conditions Fine some haze 266.

Focus 504 - 506

Spectr. Temp. 61°F ..... Dome Temp./Hum. 56°F / 100% + Fog

Good diffuse Aurora
Excellent by 2h, Super by 3AM. To zenith and south of it.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	7-7					BC	G12/.68	120μ	098-02E	B			
	[illegible]					"	"	"	"	A			[illegible]
[illegible]	7.7	10/20	2"	3.93	K2 III	BC	G12/.68	120μ	II a o e	B	STD VEL		v sl str
	5.5	00/93	1"-2"	7.04	A1	"	"	"	"	B	Am MR		fine
	5.5	00/130	1"-4"	8.7	K0	"	"	"	"	B			fine
									"				
[illegible]	[illegible]	00/88	2"-3"	7.5	A0	BC	G12/.68	120μ	"	B	Ap MR		fine
	5.5	00/89	3-5"	6.77	B9		"	"	"	B	Ap MR	T=64°F Fe arc Gap narrowed	fine
	15.5	00/89	3"	7.45	B9	"	"	"	"	B	Ap MR	in brt Aurora	sl uneven
	[illegible]	00/89		7.85	A0	"	"	"	"	B	Am MR	T=61°F Set 506	red end [illegible]
[illegible]	[illegible]					"	"	150μ	098	A		F=504 T=65°	
	"					"	"	"	"	B			
Fe/	10.10					"	"	RS	"	B			

267

Date Sept. 18-19 Tues-Wed Observers But Tn

Emulsion Batches: 7m 68° IIaO-E 07059 – 17099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43957	HD 161096	17 38.5	+04 37	1900	1905	+00 55 W	+04 32	FE ARC/ND	7-[illegible]
43958	HD 156547	17 13.1	+25 00	1909	1958	+02 14 W	+25 53	"	5-5-5
43958 ✓	Spot Cal for 43957-62,				15 min @	15V 3900	03 4300	02 4810	
43959	HD 176003	18 53.0	+44 05	2002	20 44	01 21 W	+44 10	FE ARC/ND	5-5-5
43960	HD 202313	21 07	+30 33	2047	22 15	+00 35 W	+30 50	"	5-5-5
43961	HD 6972	01 6.2	+64 29	22 26	22 34	-03 03 E	+64 50	"	5-5-[illegible]
43962	HD 222[illegible]	23 33.5	~~+41 51~~ +41 57	22 45	23 48	-00 15 E	+42 20	"	5-5-5
[illegible]	FOCUS						"	Fe/–	8-8
62 T1	"							Fe/–	10-10
T2	"							"	"
T3	"							"	"

Spectr. Temp. 68°F ..... Dome Temp./Hum. 64°F / 75% Transparency Conditions Fine sheeze gusty 268

Focus 504 .....

Spectr. Temp. 63°F ..... Dome Temp./Hum. 56°F / 92%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	7-5	40/25	3-4	3.93	K2 III	BC	G12/.68	120μ	IIa oe	B	STD VEL		v sl str
	5-5	400/90	2"	7.04	A1	"	"	"	"	"	Am MR		fine
									"				
	5-5	400/90	1-2"	7.00	A1	BC	[illegible]	120μ	IIa oe	B	Am MR		v sl str
	5-5	400/90	3"	7.56	B9	"	"	"	"	B	Ap MR		v sl str
	5-5	80/18	3"	5.39	B8	"	"	"	"	B	MR prog		v sl str
	5-5	400/85	4-8	6.77	B9	"	"	"	"	B	Ap MR	Some cloud	[illegible]
	8-8					"	"	"	"	B			sl blue
						BC	G12/.5	RS	098	B		56° F=506	
						"	"	120μ	"	A			
						"	"	120μ	"	B			

269

Date Sept. 19/20 Wed/Thurs Observers Ra-Bts/Bts

Emulsion Batches:
7h 68' IIaOe 02059-18099 16 193
IIIaJe 12108-01099 13 240

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43963F1	focus							Fe/-	4-4
63F2	focus							Fe/-	4-4
43963	HD163506=89 Her	17h 51.4	+26° 4	19h 15	19h 47	1h 29W	+26° 03	Fe/ND4	5-5-
43964	HD187929=77 Aql	19h 47.4	+00° 44.9	20h 10	20h 26	0h 11W	+0° 56	Fe/ND4	5-5-5
43965	HD186688=SU Cyg	19h 40.8	+29° 01	20h 42	23h 09	3h 02W	+29° 12	Fe/ND4	5-5-5
43964T	Spot Calc	for 43963	-70,72/5 min	@ 15v	D4 3900	D3 4300	D2 4810		
43966	HD195395=41 Cyg	20h 25.3	+30° 2'	23h 15	23 32	2h 40W	+30° 17	Fe/ND4	5-5-5
43967	HD203155=[illegible]	21h 15.4	+37° 49	23h 38	00 39	+2h 57W	+30° 38	Fe/ND4	5-5-5
43968	HD 6182	00h 57.8m	+61° 18'	00 56	02 30	+1h 05W	+61 39	Fe/ND4	5-5-5
43969	HD 14143	02h 12.2m	+56° 43'	02 45	03 30	+00 50W	+57 02	Fe/ND4	5-5-5
69T	spot cal for	43971,73		15min	D4 17.5V ① 3900	D4 15V ② 4300	③		
43970	HD 24760	03h 51m	+39° 43'	03 43	03 45	-00 34E	+39 54	Fe/ND4	7-7
43971	HD 33328	05h 04.4m	-08° 53'	04 03	04 24	-01 06E	-08 47	Fe/-	6-6-6
43972	HD 29139 (α Tau)	04 30.2	+16° 18'	04 38	04 39	-00 14E	+16 27	Fe/ND4	7-7
43973	HD 47105 (8 Gem)	06 31.9	+16 29	05 07	05 21	-01 37E	+16 24	Fe/-	10-10
73F	focus							Fe/-	30-3

Spectr. Temp. 55°F ..... Dome Temp./Hum. 51°F / 66% Transparency Conditions ....very good..... 270

Focus .....508.....

Spectr. Temp. ....46°F..... Dome Temp./Hum. ..48°../.82%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						6C	G12/.68	120μ/.5	IIaOe	B		55°F 508	
						"	"	"	"	A			
		400/130	2-4	5.82	F2Ia	"	"	"	"	B	Ceph/Evans		v sl. str
		540/26		~4	FGIb-G4Ib	"	"	"	"	B	Ceph/Evans	photographer illegible	sl str
		540/260		6.8-2.6	F0/G1	"	"	"	"	"	Ceph/Evans	540 508	sl str
									"				
		540/26		4.02	F5II	"	"	"	"	B	Ceph/Evans	labelled 64-5 illegible	sl str
		540/260		5.81	F2	"	"	"	"	B	Ceph/Evans		sl str
		800/192		8.70	B0.5 IIp	"	"	250μ/.5	"	B	CNO/Bln		fine
		100/130	3	7.17	B2 Ia	"	"	150μ/.5	"	B	CNO/Bln		v sl str
									IIIaJe			plate chipped on one corner	
		40/8		2.86	B0.5V	"	"	"	IIaOe	B	Bln	48° 510	v sl str unknown
		40/40		4.07	B2Ve	"	"	"	IIIaJe	B	Be/Bln		unknown sl. wk
		40/10		2.39	K5III	"	"	"	IIaOe	B	std vel		unknown
		40/120		1.3	A0V	"	68/-.02	20μ/.5	IIIaJe	B	KK	sl. shaded one side, exp	fine
						"			IIIaJe	B		46° 571	ok

271

Emulsion Batches: 7m 68° IIa0-0 02059 - 18099 18 19

Date 20/21 Sept. 1979 Th/Fr Observers Bln - Tn / Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
43974F1	FOCUS							Fe/-	16-16
43974F2	FOCUS							Fe/-	16-16
43974	HD195592	20H 27M.2	+43° 59'	18 57	20 09	-00 41E	+44° 15'	Fe/NUX4	4-4-4
43974T ✓	Spot Calc for	43974-79			15min @ 15V	D4 3900	D3 4300	D2 4810	
43975	HD 199216	20 50.7	+49 09	20 13	20 58	00 16E	+49 29	Fe/ND	4-4-4
43976	HD215733	22 42.2	+16 43	21 04	21 38	01 28E	+17 09	"	4-4-4
43977	HD 6182	00 57.8	+61 18, +61° 44'	21 48	23 13	02 09E	+61° 42'	Fe/ND4	3-3-3
43978	HD12323	01 55.8	+55 08	23 20	01 42	00 38E	+55 32	Fe/ND4	3-3-3
43979	HD15690	02 26.3	+57 05	01 48	02 52	00 01W	+57 27	"	3-3-3

Spectr. Temp. 58°F Dome Temp./Hum. 59°F/69% Transparency Conditions some cloud 272

Aurora start ~ 22:30

Focus 507

Spectr. Temp. 60°F Dome Temp./Hum. 53°F/98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150/.5	IIIa-J	B		58°F 507	
				BC	G12/.68	150/.5	IIa-O	A		58°F 507	
400/150	1-2	7.95	09.7Ia	BC	G12/.68	150/.5	IIa-O	B	CNO Std.	cloudy partly	fine
							"				
400/133	1"-2'	7.51	B1 II	BC	G12/.68	150/.5	IIa-O	B	CNO Std	clear	v sl str
400/90	"	7.80	B1 II	"	"	"	"	B	CNO		v sl str
800/260	2-3	8.70	B0.5II	BC	G12/.68	250/.5	IIa-OE	B	CNO		fine
800/260	1"a 2-3	8.88	ON9V	BC	G12/.68	250/.5	IIa-OE	B	SB-Bln		v sl str
800/110	1"	8.66	[illegible]	"	"	"	"	B	CNO Std	[illegible]	uneven v sl wk
					wrong tilt						
					.58						

273

Date 4/22 Sept 1979 Observers Bjo - Tr

7m 67° Emulsion Batches: IIa-O-e 02059 - 20099 11 202

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43980F1	Focus					01h W	4 35	Fe/—	15-15
43980	HD 161096	17 38.5	+04 37	19 00	19 20	01 22 W	04 35	Fe/ND4	6-6
43980F2	Focus Test					"	"	Fe/—	16-16
43980T1	Full Ap Stell test		Comp ↔ Stellar			1 35W	"	"	8-8
T3	" "	"	"	"		1 40W	"	"	8-8
T4	" "	"	Comp then Stellar			0h	"	"	8-8
T2	" "	"	Stel → Comp			0h	"	"	8-8
T5	" "	"	Comp Stell			0h	"		12-12
T6	" "	"	Stell Comp			0h	"		12-12
43981	HD 215733	22 42.2	16 43	20 35	21 30	01 32 E	+17 08	Fe/ND4	4-4-4
43982	HD 14143	02 12.2	56 43	21 38	22 31	04 02 E	+57 05	"	4-4-4
43983	HD 14818	02 18.2	56 10	22 37	23 04	03 35 E	+56 32	"	4-4/0
43983T ✓	Spot Cal. For 43980-85			15 min @ 15V		D4 3900	D3 4300	D2 4810	
43984	HD 16429	02 33.1	60 57	23 10	01 26	01 29 E	61 12	Fe/ND4	4-4
43985	HD 24398	03 47.8	31 35	01 31	01 33	02 36 E	31 50	"	6-6

Spectr. Temp. ..60°F..... Dome Temp./Hum. 57°F / 88% Transparency Conditions ...Cloudy..... 274

Focus .....507.....

Spectr. Temp. ..54.5..... Dome Temp./Hum. 48°F / 100% too wet

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	15					BC	G12/.68	150w/.5	IIIaJ old				
	6-8	10/20	3"	3.93	K2III	BC	G12/.68	150/.5	IIaO	B	std vel	cloud	
	16-5					"	"	"	IIIaJ old	A	T=60°F		
	8-					"	"	150/.9	"	B			
	4-					"	"	"	"	A			
	8					"	"	120/.9	"	B			
	8					"	"	"	"	A			
						"	"	70/.9	"	A			
						"	"	"	"	B			
		100/97	2-3"	7.80	B1II	"	"	150/.5	" IIaO, presumably	B	CNO-Bla	some cloud	v sl str
		100/132	2-3"	7.17	B2Ia	"	"	"	"	"	CNO std	"	v sl str
		100/94	4-5"	6.56	B2Ia	"	"	"	"	"	"		
									"				
	4	100/110	5"-10"	8.29	O9.5II(a)	"	"	"	"	"	CNO		
		10/7	5-8"	2.96	B1Ib	"	"	"	"	"	CNO std		

275

Date Sept 22/23 Sat/Sun Observers Bls

7m 67° Emulsion Batches: IIaD 02059 - 20099 17198

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
86F	focus							Fe/-	5-5		
43986	HD 213307	22h 25.5m	+57°54'	21 14	21 33	-01 07 E	+58° 11'	Fe/ND4	5-5	40/60	3'
43987	HD 172865	18h 37.4m	+30° 11'	21 50	00 22	+05 30W	+30° 18'	Fe/ND4	7-7-7	40/250	
43988	HD 6182	00h 57.8m	~~+61° 47'~~ +61° 18'	00 44	02 14	+01 00W	+61° 42'	Fe/ND4	5-5-5	20/20	
43989	HD 14818	02h 18.2m	+56° 10'	02 26	02 45	+00 10W	+56° 36'	Fe/ND4	5-5-5	40/80	
✓ 89T	spot cal for	43986 -		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
43990	HD 16429	02h 33.1m	+60° 51'	02 53	04 38	+01 47W	+61° 10'	Fe/ND4	5-5-5	40/100	3
43991	HD 46966	06h 31.1m	+06° 10'	04 50	05 18	-01 28E	+06° 06'	Fe/ND4	5-5-5	20/60	3-4
43992	HD 29139 (α Tau)	04h 30.2m	+16° 18'	05 28	05 28	+00 43W	+16° 28'	Fe/ND4	7-7	30/11	
92F	focus							Fe/-	5-5		

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. 55° Dome Temp./Hum. 49°F/75% Transparency Conditions ... some haze

Focus 508

Spectr. Temp. ..... Dome Temp./Hum. 43°F/73%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks		Quality
				BC	G12/.68	150μ .5"	IIaOe	B		55°	508	
400/60	3"	6.3	B7V	BC	G12/.68	150μ .5"	IIaOe	B	SB-Bln.			sl [illegible]
400/250		7.78	G5III + K0III	BC	G8/-.025	"	IIaOe	B	VB-Bln			fine
800/260		8.70	B0.5 IIp	BC	G12/.68	250μ .5"	IIaOe	B	CNO/Bln	52°	509	v sl str
400/90		6.56	B2Ia	BC	"	150μ .5"	IIaOe	B	CNO/Bln	50°	509	v sl str
							IIaOe					
400/100	3"	8.29	O9.5 II (n))	"	"	"	"	"	CNO/Bln			fine
[illegible]/60	3-4	6.80	O8V	"	"	"	"	"	CNO/Bln	48°	510	fine
40/11		2.39	K5III	"	"	"	"	"	std vel			fine
				"	"	"	"	"		48°	510	sl blur

277

Date . . Sept. 23/24 Sun/Mon Observers . Gru-KK-Bts/Bln-Bts

Emulsion Batches:
5m 68° IIaJe 12108-20099
5m 68° 09802e 20049-20099
10m 68° H.I.E. 23099
7m 67° IIaDe 02059-23099

15,113

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
discard 93F1	focus							Fe/–	25-25
93F2	focus							Fe/–	25-25
43993	HD 187929 (η Aql)	19h 47m 23	+00° 45'	19h 11m	19h 55m	-00 04 10	+00 57 W	Ne/–	30-30-30
discard 93F3	focus							Ne/–	60-60
43994	HD 204867 (β Aqr)	21h 26m 18	-06° 01'	20h 11m	20h 34m	-01 03 50	-05° 39'	Ne/–	30-30-30
43995	HD 209750 (α Aqr)	22h 00m 39	-00° 48'	20h 44m	21h 01m	-01 11 10	-00° 23'	Ne/–	[illegible]
43996	HD 213307 (18 Cep)	22h 25m 27	+57° 54'	21h 13m	22h 00m	-00 35 10	+58° 19'	Ne/	[illegible]
96T	spot cal for	43993-97		10min D4 7½V ① 7680	10min D4 7½V ② 8964	30min D3 7½V ③ 8464			
43997	AD 8890 (α UMi)	01h 22 23	+88 46	22h 18m	22h 30m	-04 00 35	+89° 10'	Ne/	[illegible]
43998	" (α UMi)	"	"	23h 01m	23h 04m	-03 37 10	+89 10'	Ne/– Fe/ND4	5-10 5-10
43999	HD 204867 (β Aqr)	21h 26m 18	-06° 01'	23h 19m	23h 35m	+01 47	-05 38	Ne/– Fe/ND1	5-5-5 5-5-5
44000	HD 215733	22 42.2	+16° 43'	23 39	00h 14m	+01 21W	+17° 08'	Fe/ND4	5-5-5
00T	spot cal for	43998-99	15min	D3 15V ① 4810	D1 7V ② Hα	D2 7V ③ 5450			
44001	HD 12323	01h 55m.8	+55° 08'	00h 24m	01 40	-00 29E	+55° 31'	Fe/ND4	5-4-4
44002	HD 12993	02h 02m	+57° 27'	01h 44m	03 30	01 15W	+57° 49'	Fe/ND4	4-4-4

Spectr. Temp. 56° Dome Temp./Hum. 53°F/72% Transparency Conditions excellent!! 278

Focus 507

Spectr. Temp. 50° Dome Temp./Hum. 44°F/81%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Bc	G12/.68	150μ .5	IIIa+	A		V filter 56° 507	no companion
				"	"	"	"	B			
40/10	2-3	3.5	F6Ib	BC	G12/.9	150 .3	H1E	B	IRCeph/Gu.	glass backing broken	wk
				"	"	"	"	B			only stellar
0/92	2-3	2.86	G0Ib	"	"	"	"	B	IRCeph/Gu		v sl wk
0/91	2-3	2.93	G2Ib	"	"	"	"	B	"		v sl wk
0/91	2-3	3.96	F5Ib		"	"	"	B	"		light struck in [illegible]
							H1E				
40/124	2-3	2.00	F8Ib	"	"	150μ .5	"	B	"		[illegible] v sl wk
10/26	"	"	"	"	G16/.7	"	098o2e	B	"	54° 508	sl strong [illegible]
0/51	"	2.86	G0Ib	"	"			B			strong
400/100	"	7.80	B1II	BC	G12/.68	150μ/.5	IIaOe	B	CNO ☆	First few counts with V filter still in place	sl str
							098o2e			Hα very strong	
00/260	2-3	6.88	ON9V	BC	G12/.68	250/.5	IIa-OE	B	CNO ☆		sl str
300/240	"	9.20	O6.5V	"	"	"	"	B	CNO/Bln		v sl str

279

Date Sept 23/24 cont. Observers Bln - Bts

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
02T	spot cal for	44000 -	04	15min 15V	04 ① 3900	03 ② 4300	02 ③ 4810		
44003	HD16832	02h 36m.9	+56°14'	03h 36m	05 32	+02 42W	+56°34'	Fe/ND4	4-44
44004	HD 29139	04h 30m.2	+16° 18'	05h 36m	05 37		+16°28'	Fe/ND4	6-6
44004F	focus							Fe/—	25-25

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 280

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. 44° F / 93%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
									IIaOe				
Fe/Ne	4-44	800/248	2	9.25	G9.5III	BC	G12/.68	253/.5	IIa-OE	B	CNO Std.	T=51°F 509	[illegible]
Fe/Ne	6-6	40/12	3	2.39	K5III	BC	G12/.68	253/.5	IIa-OE	B	Std. Vel.	50° 509	[illegible]
Fe/-	2-25					BC	G12/.68	253/.5	IIIa-J	B			

281

Date SEPT. 24/25 MON/TUES Observers Bur-BtD

Emulsion Batches:
7m 68° IIaOe 02059 23099 19194

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44005F	focus							Fe/–	25-25
44005	HD 156547	17 13.1	+26 00	19 05	20 05	+02 45W	+25 53	FE/ND	5-5-5
44006	HD 176003	18 52.0	+44 05	20 10	20 47	+01 48W	+44 09	"	5-5-5
44007	HD 190165	19 58.6	+45 11	20 53	22 00	+01 55W	+45 22	"	5-5-5
44008	HD 202313	21 09.9	+30 23	22 04	23 18	+02 02W	+30 50	"	5-5-5
✓	spot cal for	44005-		15V 15min	04 ① 3900	03 ② 4300	02 ③ 4810		
44009	HD 222368	23 34.8	+05 05	23 27	23 36	-00 06E	+05 28	FE/ND	7-7
09F	focus							Fe/–	5-5

Spectr. Temp. 58°F Dome Temp./Hum. 54°F/88% Transparency Conditions clear, some haze

Focus 506

Spectr. Temp. 57°F Dome Temp./Hum. 53°F/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Bc	G12/68	120μ .5	IIaJ	B		58° 506	
400/90	2-3	7.04	A1	"	"	"	IIaOe	B	Am MR		vsl stm
400/91		7.00	A1	"	"	"	"	B	Am MR		vsl stm
400/90	2	7.58	A2	"	"	"	"	B	Am MR	58° 506	fine
400/90		7.56	B4	"	"	"	"	B	Ap MR		fine
							IIaOe				
10/15		4.14	F74				"	B	STD VEL	clouds, humidity, haze	fine
				"	"	"	"	"		57° 506	

283

Date SEPT. 25/26 TUES/WED Observers Butler

Emulsion Batches: Ia0e 02059 - 24099 18 198

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. Exp. Mtr	Sec
44015F								FE ARC / —	5-5		
44010	HD 156547	17 13.1	+26 00	19 01	20 06	+02 49W	+25 52	FE ARC / 104	5-5-5	100/90	
44011	HD 176798	18 56.9	+43 07	20 12	21 00	+02 01W	+43 11	"	5-5-5	100/91	
44012	HD 208835	21 53.9	+46 23	21 05	21 56	-00 01E	+46 44	"	5-5-5	91	
44013	~~HD 21 6645~~ HD 217712	21 54.4	+47 27	22 02	23 37	+00 35W	+47 51	"	5-5-5	90	
44014	HD 221246	23 25.3	+48 35	23 44	00 50	+01 22W	+49 59		5-5-5	100	
15T ✓	spot cal for	44010-18		15min 15V	① D4 3900	② D3 4300	③ D2 4810				
44015	HD 222207	23 33.1	+41 57	00 55	01 55	+02 19	+42 22	FE ARC / 104	5-5-5		
44016	HD 16855	02 31.1	+43 07	01 59	02 55	+00 14	+43 27	"	5-5-5		
44017	HD 18337	02 51.7	+59 11	03 02	05 15	+02 19	+59 29	"	5-5-5		
44018	HD 29139 (STD)	04 36.2	+11 18	05 22	05 27	+00 50	+11 28	"	7-7		
44018F	FOCUS							FE ARC / —	5-5		

Spectr. Temp. ...64°F..... Dome Temp./Hum. ..64°F/72% Transparency Conditions ..V..hazy.....284..

Focus .....504.....

Spectr. Temp. ..58°F..... Dome Temp./Hum. ..53°F/94%

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	G12/ .68	120μ .5	IIaO	B			
[illegible]	400/90	2-3	7.04	A1	"	"	"	IIaOe	B	Am MR		fine
[illegible]	400/91	2	7.21	A3	"	"	"	"	"	Am MR		fine
[illegible]	00/91		7.39	A0	"	"	"	"	"	Ap MR		fine
[illegible]	00/90		7.8 ~~7.50~~	A0	"	"	"	"	"	~~Ap MR~~	wrong [illegible]	fine
[illegible]	00/170		7.50	K5III	"	"	"	"	"	MR PROG		fine
								IIaOe				
[illegible]	00/90		6.77	B9	BC	G12/ [illegible]	120μ .5	"	B	Ap MR	62°F 505	fine
[illegible]	400/90	2-3	6.7	A2	"	"	"	"	B	Am MR	clearer	fine
[illegible]	400/100		7.85	A0	"	"	"	"	B	Am MR	broken - 2 pieces	ok
[illegible]	[illegible]/20		[illegible]	K5III			"	"	B	STD VEL		vel stn
[illegible]					"	"	"	"	B		55°F 506	

285 Pg #1

Date Sept 26/27 Wed/Thurs Observers Rm-Tn

Emulsion Batches:
7m 68° IIa O-e 02059-24099 19
7m 68° * IIa O-e 02059-26090 19
6m 68° 098 aE 20049-20099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44019	HD163506 = 89 Her	17h 51.4	+25° 4	18h 47	19h 01	01 11 W	+26° 06	Fe ND×4	5-5-5
44020	HD180583 = HR7308	19h 12.0	+27° 45	19h 07	19h 26	00 15 W	+27 54.2	Fe ND×4	5-5-5
44021	HD187929 = η Hyl	19h 47.4	00° 44.9	19h 33	19h 42	00h 05 E	+00° 58.4	Fe ND×4	5-5-5
44022	HD186688 = SU Cyg	19h 40.8	+29° 01	19h 46	21 04	01 24 W	+29° 13.3	Fe ND×4	5-5-5
44022T	spot cal for	44019-25	15 min	15V	D4 ① 3900	D3 ② 4300	D2 4810		
44023	HD195295 = 4 Cyg	20h 26.3	+30° 2	21h 12	21h 20	0h 56 W	+30° 19	Fe ND×4	7-7
44024	HD198726 = T Vul	20h 47.2	+27° 52	21h 31	22h 11	1h 26 W	+28° 11	Fe ND×4	5-5-5
44025	HD203156 = HR8157	21h 15.4	+37° 49	22h 44	23 10	1 56 W	+38° 10	Fe ND×4	5-5-5
44026	HD222368 = i Psc	23h 34.8	+5° 05	23h 15	23h 20	0h 14 E	+5° 34	Fe ND×4	7-7
44027	HD219634	23 12.1	+61 25	23 42	00 52	1 40 W	+61 52	Fe/ND Ne/-	5-5-5 5-5-5
44028	"	"	"	00 55	02 14	3 03 W	"	Fe/ND Ne/-	5-5-5 5-5-5
44029	"	"	"	02 17	03 31	4 20 W	"	Fe/ND Ne/-	5-5-5 5-5-5
44028T	Spot Cal for	44027-29		15 min @	15V D3 4810	7V D1 Hα	7V D2 5450		
44030	HD28363	4 23.3	+15 57	03 40	05 00	0 38 W	+16 08	Fe/ND	7-7-
44030T	Spot Cal for	44026, 30		15 min @ 15V		D4 3900 D3 4300	D1 4810		

Spectr. Temp. 64°F ..... Dome Temp./Hum. 64°F / 72% Transparency Conditions Fine ... 286

Focus 505 .....

Spectr. Temp. ..... Dome Temp./Hum. 56°F / 83%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		80/22	1-2	5.82	F2Ia	BC	G12/.68	120μ/.5	IIaOE	B	Ceph/Evans	Focus 505	Fine
		400/112	"	6.7	F6I-Ib	"	"	150μ/.5	IIaOE	B	Ceph/Evans		Fine
		40/26		4.3	F6Ib-G4Ib	"	"	120μ/.5	"	B	Ceph/Evans		sl str
		400/260	1-3	6.8-7.7	F0-G1	"	"	"	"	B	Ceph/Evans		vsl str
									"				
		40/27	1"	4.02	F5II	BC	G12/.68	120/.5	IIaOe	B	Ceph/Evans	64°F	sl str
		400/261	1"	6.4	F5Ib-G0Ib	"	"	"	"	"	Ceph/Evans	T=63.5°F	Fine
		80/54	1"	5.89	F2	"	"	"	"	B	Ceph/Evans	broken in 2 pieces both sand	sl str
		40/13	1"	4.64	S7V	"	"	"	" *	B	std vel	new box of plates	vsl wk
		400/300	1"	6.47	B8	"	G16/.7	120μ/.3	098e	B	SB Ly		[illegible]
		400/290	1-3"	"	"	"	"	"	"	B	"		[illegible]
		400/254	1-3	"	"	"	"	"	"	B	"		[illegible]
									"				
		400/260	1"	7.14	F8	"	G8/.025	120μ/.3	IIaOe *	B	Hyades - Bln		Fine
									"				
											cont →		

287 #2

Date Sept. 25-27 Cont Observers Ly.-Th.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44031	HD47105	06 31.9	+16 29	05 06	05 08	01 22E	+16 25	Fe/ND	9-9
44032	HD61421	07 34.1	+5 29	05 14	05 15	02 17E	+05 17	Fe/ND	9-9
32F1	Focus							Fe/-	9-9
32F2	Focus							Fe/-	9-9

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... good ... 288

Focus ..... 505 .....

Spectr. Temp. ... 60°F ..... Dome Temp./Hum. .. 54°F / 78% .

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/44	1-2	1.9	AO IV	BC	68/-.025	120μ	IIaO	B	Asm-KK		s/str
40/28	1-2	0.5	F5 IV	"	"	"	"	B	Std Vel		s/ gng s/str
				"	"	"	IaO	A			
				"	"	"	"	B.			cont vvs/blue ok

289

Date Sept 27/28 Thurs/Fri Observers Gu-Bts/ KK

Emulsion Batches:
10h HIE 27099
5m W-Nh (1/17, 2, 1)
Oct 3 → [illegible] - 20099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
33F	focus							Fe/–	5-5
44033	HD 187929	19h 47m 23s	+00° 45'	19 09	21 06	01 23	+00 59	Ne/–	30-30 -30
44034	HD 8890	01 22 23	+48 46	21 25	22 10	-04 02E	+89 11	Ne/–	30-30
33T	spot cal for	44033		7½	D4 10min ① 7680	D4 10min ② 8464	D3 30min ③ 8464		
Oct 3	Focus Tests								
44034F1	Focus Tests		Dome Temp = +62.5°F			0h 0	+5°	Fe/–	30-30
44034F2	"					"	"	"	30-30
44034F3	"					"	"	"	30-30
44034F4	"					"	"	"	30-30

Spectr. Temp. 68° Dome Temp./Hum. 66°F/73% Transparency Conditions scattered cloud 290

Focus 504

Spectr. Temp. Dome Temp./Hum. 60°F/95%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	24 G12/.9	150 .3 V	IIaO	B		68° 504	cont st blue
[illegible]	[illegible]	40/52	2	3.5	F6Ib	"	"	"	HIE	"	IRCeph/Gu	V filter	wk
[illegible]	[illegible]	40/62	"	2.0	F8Ib	"	"	RS	IV-Nh	"	"	V filter	wk
									HIE				
[illegible]	[illegible]	T= 63.5°F Set 505				BC	G12/.68	120μ	IIIaJ-e	A			
"	[illegible]		"			"	"	"	"	B			
"	[illegible]		"			"	"	"	"	A			
"	[illegible]		"			"	"	"	"	B			

291

Sun-Mon

Date Sept. 30 / Oct. 1 / 79 Observers KK-Tn

5m 68°

Emulsion Batches: IV Nh (1/17, 2h, 1) 3d 17, 30

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44035	HD 172167	18 336	+38 41	22 48	23 18	05 02 W	38 48		30-30-3
44036	"	"	"	23 23	00 06	05 50 W	"		30-30-3
44036T ✓	Spot Cal for 44035				15 min @	7½ V D3 8464	7½ V D3 7680	7½ D3	
~~44036F~~	Focus							Fe/L	10-10

Spectr. Temp.

Focus 5.0

Spectr. Temp.

Exp. Mtr Seem

17,30

Spectr. Temp. 67°F ..... Dome Temp./Hum 61°F/96% Transparency Conditions .. Hazy - Cloudy 292

Focus .. 504 .....

Spectr. Temp. 64.5°F ..... Dome Temp./Hum. ..... / .....

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	[illegible]	40/300				BC	G12 G24/.9	RS	IV Nh	B		v Filter	st wk comp v wk
	[illegible]	40/140				"	"	"	"	B		v Filter cloudy	wk comp v wk
									"				wk
[illegible]	[illegible]					BC	G24/.9	RS	"	B			too wk

Plates are clean, low fog, after 3d at 4°C, but inadequately hypered back to 1/15 conc (15 of 1500 $AgNO_3$)

293

7m 680 Emulsion Batches: IIa O-e 02059 - 26099 22211

Date TUES/WED OCT 9/10 Observers Bat-Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44037	HD 176003	18 53.0	+44 05	19 04	20 12	+02 10W	+44 02	FE [illegible]/ND4	5-5-5
44038	HD 190165	19 58.6	+45 11	20 18	22 17	+03 09W	+45 18	" / "	5-5-5
44038T	Spot Calc for 44037-40.				15min@15V	D4 3900	D3 4300	D2 480	
44039	HD 217695	22 57.4	+47 29	22 21	23 55	+01 48W	+47 43	FE [illegible]/ND	5-5-5
44040	HD 222416	23 35.3	+44 31	23 59	01 59	+03 14W	+44 51	"	5-5-5
44041	HD 16855	02 37.1	+43 07	02 02	02 53	01 05W	+43 17	"	5-5-5
44042	HD 18337	02 51.7	+59 11	02 56	03 44	+01 40W	+59 20	"	5-10
44043	HD 29139 (α TAU)	04 30.2	+16 18	03 48	03 50	+00 10W	+16 19	"	7-7
44044	HD 24398 (Jper)	03 47.8	+31 35	04 08	04 10	+01 12W	+31 42	"	7-7
44043F	Focus							Fe/ND	7-7
44045	HD 21142	03 19.7	+12 09	04 16	05 12	+02 42W	+12 18	"	5-10

Spectr. Temp. 45.5°F ..... Dome Temp./Hum. +40°F/90% Transparency Conditions ..Clearing..... 294

Focus .....511 - 512.....

Spectr. Temp. 39 ..... Dome Temp./Hum. +32°F/98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/90	5"	7.00	A1	BC	G12/.68	120μ	IIaoe	B	Am MR	some cloud	Fine
100/100	5-7	7.58	A2	"	"	"	"	B	Am MR		Fine
							"				found shuttered in [illegible]
100/90	4-7"	7.50	A0	BC	G12/.68	120μ	IIaoe	B	Ap MR	T=42°F Set 512	Fine slgng
100/90	3-4	7.45	B9	"	"	"	"	B	Ap MR		Fine
400/93	3-5"	6.7	A2	"	"	"	"	B	Am MR	T=40°F	"
100/32	7"	7.85	A0	"		"	"	B	Am MR	Cloud	wk but ab
[illegible]/19		2.[illegible]	K5 III	"	"	"	"	B	STD VEH	CLOUD	Fine
[illegible]/7	3"	2.96	B1 Ib	"		150μ	"	B	T+39°F Set 512		
				"	"	120μ	"	B			[illegible] sl blue
100/35	4"	7.6	A0	"	"	120μ	"	B	Am MR	some cloud	wk but ok
									Prob when Obs box fell		
									open on walk back to		
									Adm. Bldg.		

295

Date Sat Sun Oct 13/14 1979 Observers BK - Bts

Emulsion Batches: IIaOe 02059 - 10109

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
46F	focus							Fe/-	5-5
44046	HD 218634	23 045	+8 08	23 28	0 35	2 38W	+8 34	Fe/NO4	5-5-5

Spectr. Temp. 44° Dome Temp./Hum. 48°/90% Transparency Conditions Clear 296

Focus 511

Spectr. Temp. 44° Dome Temp./Hum. 40°/91%

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe/- 5-5					BC	G12/.68	R9/.5	IIaOe	B		44° 511	centus/b
Fe/[illegible] 5-5	100/58	2"	6.6	M2III	"	"	"	"	B	Waterloo	clouds, dropped out	wk

297

Date Tues. Wed. OCT. 16/17 Observers But Bts

Emulsion Batches: IIaOe 02059-10109 20206

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44047F	focus							FE ARC/—	5-5
44047	HD 188041	19 48.1	-03 22	18 50	19 58	+01 28W	-03 12	FE ARC/N04	5-5-9
44048	HD 204411	21 23.3	+47 24	20 03	20 35	+00 31W	+48 43	"	6-6-6
44049	HD 202313	21 09.9	+30 33	20 41	22 49	+02 59W	+30 48	"	5-5-5
49T ✓	spot cal for	44047-53		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
44050	HD 217695	22 57.4	+47 24	22 54	00 43	+03 05W	+47 49	FE ARC/N04	5-5-
44051	HD 18337	02 51.7	+59 11	00 51	03 29	+01 54W	+59 25	"	5-5-5
44052	HD 42536	06 06.2	-06 44	03 40	04 31	-00 14E	-06 48	"	5-5-5
44053	HD 29139	04 30.2	+16 18	04 38	04 40	+01 29W	+16 27	"	5-10
53F	FOCUS							FE ARC/—	5-5

Spectr. Temp. ....48°..... Dome Temp./Hum. 42°F/86%. Transparency Conditions ..Some..haze.....298..

Focus .....510.....

Spectr. Temp. ..... Dome Temp./Hum. 40°F/93%.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	70μ/.5	IIaO	B		48° 510 cent vs/blue	
100/90	3-4	5.8		BC	G12/.68	70μ/.5	IIaoe	B	Ap MR	vs/wk	
100/91	3"	B 5.2		"	"	"	"	B	Ap MR		Fine
100/90		7.56	B9	"	"	120μ/.5	"	B	Ap MR	s/wk	
							"				
100/90	4"	7.5	A0	BC	G12/.68	120μ/.5	"	B	Ap MR		Fine
100/93		7.85	A0	"	"	"	"	B	Am MR	CLOUD vs/wk	
100/91	3"	6.2		"	"	"	"	B	Ap MR	44° 511 CLOUD	Fine
0/18		2.39	K5III	"	"	"	"	B	STD VEL		Fine seeing
					"	"	"	B		43° 511 cent s/blue	

299

Date Oct 21/22 Observers Gu - TN - Finstad - Freedman

Emulsion Batches:
10m HIE old (1977) batch? 112,225!
5m III2F 29 168

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44054	HD 187929	19 47 23	+00 45	18 30	21 14	+03 04W	+00 59	Ne/-	30-30-30
44054T ✓	Spot Calc for 44054			7.5V	D4 10min 7680	D4 10m 8464	D3 30min 8464		
44055	HD 213307	22 25 27	+57 54	21 38	21 46	+01 00	+58 18	Ne/- Fe/ND4	5-10 5-10
44056	"	"	"	21 49	21 57	+01 10	"	"	"
44057	"		"	22 01	22 17	+01 31	"	"	5-5-5 5-5-5
44057F ✓	Focus test					"	"	Ne/-	30-30
44057T	Spot Calc for 44055-57			15min @ 7V		D4 5160	D2 [illegible]	D3 5950	

Spectr. Temp. 69° Dome Temp./Hum. 70°/88% Transparency Conditions Hazy 300

Focus 503

Spectr. Temp. 70°F Dome Temp./Hum. 66°F/98%

69° 503

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/110	2-3"	3.86	F5Ib	BC	G12/.9	150μ .3	HIE	B	IR Ceph/Gu	* V filter backing plate shattered	very high fog
							"				
40/40	2-3"	3.96	F5Ib	BC	G16/.7	RS	IIa-F	B	IR Ceph/Gu	comp wk	wk
40/59	"	"	"	"	"	"	"	B	"	com, wk	sl wk
40/69	"	"	"	"	"	"	"	"	"	Cloud comp wk	sl wk
							"	B		m	v sl bl.
							"				good

301

Date OCT 22/23 MON/T... 79 Observers ...But.-Tn.....

Emulsion Batches:
7m 10° IIa O-e 02059 - 10109 23 174
5m 65° III 2Je - 20099
III 2Je* - 19109

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44058F	FOCUS Test							FE ARC/ /	15-15
44058	HD186791 (γ Aql)	19 41.5	+10 22	18 01	18 05	+00 06W	+10 33	FE ARC/ND4	7-7
44059 ✓	HD176798	18 56.9	+43 07	18 10	19 12	+0158 W	+43 12	"	5-5-5
44059T	Spot Calib for 44058-60				15min @	D4 15V 3900	D3 4300	D2 4810	
44060	HD188041	19 48.1	-03 22	19 25	21 12	+03 06	-03 09	FE/ND	6-6-6
60F	FOCUS Test							FE ARC/ —	5-5
60T1 ✓	Spot calibration	(test plate)		30m	D3 4300	15V			
60T2 ✓	"	"		"					

Spectr. Temp. 70°F Dome Temp./Hum. 70°F / 85% Transparency Conditions hazy cloudy 302

Focus 503

Spectr. Temp. 68°F Dome Temp./Hum. 68°F / 98%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	G12/.68	120μ	IIIaJe	B		cent +50μ	very red
		10/ ?	2"	4.15	K2	"	"	120μ .5	IIaoe	B	STD VEL	HV left off ?	fine ?
		400/90	2"	7.27	A3	"	"	"	"	B	Am MR	exp	fine
									"				
		400/110	8"	5.8		BC	G12/.68	70μ .5	"	B	Ap MR	CLOUD	fine sl. y flexure
								120μ .5	"	B		68° 503 m	sl blue
									IIIaJe*			1.5×10⁻² [illegible]	
									IIIaJe			old tank	

303 Tues Wed

Date Oct 30-31 1979 Observers But Tm KK (some)

Emulsion Batches: 7m 68 IIa O-e 02059-?

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44061F1	Focus test							FeNe/Wr6	10-10
F2								"	"
44061	HD137907 (β CrB)	15 23.7 ~~15 26.8~~	+29 27 ~~+29 11~~	17 53	18 02	4 52W	+29 15	FE ARC/ND	9-9
44062	HD196502	20 32.8	+74 37	18 11	18 29	+00 15W	+74 57	"	8-14
44063	HD201032	21 02.0	+62 59	18 38	20 08	+01 23W	+63 21	"	5-5-5
44063T	Spot Calib for 44061-		64.		15min @ 15V	D4 3900	D3 4300	D2 4810	
44064	HD3712 (α CAS)	00 34.8	+55 59	20 22	20 51	-01 23 E	+56 29	FE ARC/ND	5-5-5
64F1	FOCUS TEST							FE ARC/-	15-15
64F2	FOCUS TEST							"	15-15

Spectr. Temp. +43.5°F } after focus tests Dome Temp./Hum. +39°F/98% Transparency Conditions Sl. hazy - cloudy 304

Focus 510

Spectr. Temp. 43°F Dome Temp./Hum. 39°F/+100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G8/-.025	120/1.0	IIIaJe	A		T=43° F=511 after rotation	blue red red sl H.
				"	"			B			"
80/40	3"	3.93	F0p	"	"	120/.5	IIaJe	B	Asp Sp HR	T=43.5 Se+510 focus	v sl strong poor in blue
80/18	2-3"	5.2	A0p	"	G12/.68	70μ/.5	"	B	Ap MR	T=4 " grainy	v sl strong, red focus
400/94		7.40	A5	"	"	120μ	"	B	Am MR	T=43° Se+512 some SE cloud	"
							"				
80/17	3"	3.34	K0II	BC	G12/.68	120μ/.5	"	B	STD VEL	Cloud	uneven
							IIIaJ	B		after attempted rotation	blue sl red red sl blue
							IIIaJ	A			"

305

Wed-Thurs

Date Oct 31-Nov 1 Observers Rm-Bts Dennis-Dirk

Emulsion Batches: 7m 68° IIaOe 02059-22109

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44065F1	Focus Test					1 59 x		Fe/—	5-5
44065	HD186688 = SU Cyg	19h 40.8	+29° 01	18h 02	19h 21	0h 59 W	+29 16.9	Fe/NDx4	5-5-5
44066	HD180583 HR7308	19h 12.0	+27° 45	19 27	20h 00	03 07 W	+27 58.2	Fe/NDx4	5-5-5
44067	HD203156 HR8157	21h 15.4	+37° 49	20h 15	20h 59	+02 03 W	+38° 11	Fe/NDx4	5-5-5
44067T ?	Spot Calib for 44065-72		15 min @ 15v		D4 3900	D3 4300	D2 4810		
44068	HD222368 = i Psc	23h 34.8	+5° 05	21h 12	21h 21	0h 02 W	+5° 35	Fe/NDx4	5-5-5
44069	HD195295 = 9 Cyg	20h 25.3	+30° 21	21h 25	21h 39	03 32 W	+30 23	Fe/NDx4	5-10
44070	HD198726 = TVul	20h 47.2	+27° 52	21h 44	23h 00	04 32 W	+28° 14	Fe/NDx4	5-5-5
44071	HD ~~[illegible]~~ 203156 ~~[illegible]~~	21h 15.4	+37° 49	23h 06	00h 24	+05 29 W	+38° 14	Fe/NDx4	5-5
44072	HD 30869	04 46.2	+13 29	00 33	01 20	01 08 E	+13 41	Fe/NDx4	5-5-5
72F	focus							Fe/—	5-5
	Focus Tests Nov 2/79 Bts								
72F2	focus							Fe/—	5-5
72F3	focus							Fe/—	5-5

Spectr. Temp. 48°F Dome Temp./Hum. +47°F/43% Transparency Conditions same haze 306

Focus 510

Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	G12/.68	150/.5	IIaOE	B		48°F 510	cent sl Blue in Red cent vs/Red in blue
		0/180	2-3	6.8-7.7	F0-G1	"	"	150/.3	IIaOE	B	Ceph/Evans		sl strong
		00/90		6.7	F6I-Ib	"	"	150/.3	IIaOE	B	Ceph/Evans		fine
		00/130	3-4	F2	5.39	"	"	150/.5	IIaOE	B	" "		v sl str
									IIaOE				
		0/12		F7V	4.69	"	"	150/.5	IIaOE	B	std vel		sl str
		0/26		F5II	4.43	"	"	150/.5	IIaOE	B	Ceph/Evans		strong
		00/180		F5Ib-Gold	6.4	"	"	150/.3	IIaOE	B	Ceph/Evans	changed to .3 slit after 45 counts 49° 510	sl str
		00/106		F2	5.89	"	"	150/.3	IIaOE	B	Ceph/Evans	some thin cloud	[illegible] comp str
		00/36		F5	7.10			"	"	B	Sp Bu/Blu-Ly-Tur	no comp vs last 10 min	v sl wk
										B		humidity very high	blue, sl red red, sl blue
												cloud. 48°F 510	
												red end generally	
						BC.	G12/.68	120/.5	IIaOe	B		T=48° poor focus	blue
						"	"	"	"	A		F=510	blue

307

Date ...Nov. 2/3 Fri/Sat Observers ....Bds.....

Emulsion Batches:
..IIaOe 02059 - 30109

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp Mtr	Seeing
73F	focus							Fe/-	5		
44073	HD25638	03h 59.0m	+62° 03'	02 19	03 41	+02 05w	+62° 19'	Fe/ND4	5-5-5	[illegible]	[illegible]
44074	HD 25639	03h 59.0m	+62° 03'	03 46	05 45	+04 10w	+62° 19'	Fe/ND4	5-5-5	[illegible]	[illegible]
74T ✓	spot cal for	44073 - 76		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
44075	HD 27192	04h 12.6m	+50° 41'	05 51	06 24	+04 48w	+50° 56'	Fe/ND4	5-5-5	[illegible]/71	3
44076	HD 62509 (β Gem)	07h 39.2m	+28° 16'	06 30	06 33	+01 22w	+28° 09'	Fe/ND4	5-10	[illegible]/22	[illegible]
76F	focus							Fe/-	5		

Spectr. Temp. .....44°..... Dome Temp./Hum. 37°F...83%. Transparency Conditions ...clear.., some haze...308

Focus .....511.....

Spectr. Temp. .....41°..... Dome Temp./Hum. 33°F...90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150/.5	IIaOe	B		44° 511	cent Blue
400/110	5	7.12	B0V	"	"	"	"	B	EB-Bln		Focus? Fine
400/110	4-5	7.15	B0V	"	"	"	"	B	SB-Bln		"
200/71	3	5.50	B2IV	"	"	150/.7	"	B	SB-Bln	41° 512	Focus? Fine
40/22	4	2.15	K0III	"	"	"	"	B	sld vel		Focus 51 str
				"	"	"	"	B		41° 512	cent Blue

309

Date Nov. 4/5 Sun/Mon Observers Bts KK

Emulsion Batches:
IIaOe 02059 - 30109
IIIaJe - 20099

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
77F	focus							Fe/-	5-5
~~44077~~	~~HD203156~~ HR 8157	~~21h 15m.4~~	~~+37° 49'~~	~~20 51~~				Fe/ND4	5
44077T1	β And 1780	01 08	+ 35 30	0:35					
T2	Grating illumination test							*	
44077	HD 18925 (8 Per)	2h 57m.6	+53° 07'	01h 17m	01h 39m	01h 14W	+53° 29'	FeNe/Wr6	4-5-4
44078	"	"	"	01h 42m	02 08	01 43W	"	"	4-5-4
44079	HD 47105 (8 Gem)	6h 31m.9	+16° 29'	02h 17m	02 40	01 16E	+16° 27'	"	4-4-4
44080	"	"	"	02h 54m	04 01	+00 05W	+16° 27'	Fe/-	5-10-8
80T ✓	spot cal for	44077 - 79		15 v 15 min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
80F	focus							fe/-	8-8

* Wratten 6 filter not in filter wheel

Spectr. Temp. ....44°..... Dome Temp./Hum. 40°F/..82% Transparency Conditions ..clear.....310...

Focus .....511.....

Spectr. Temp. .....42°..... Dome Temp./Hum. 36°/..83%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150/.5	IIaOe	B	Ceph/Rm	44° 511	no Comp Dis cabinet
~~400/~~	~~2-3~~	~~5.89~~	~~F2~~	~~"~~	~~"~~	~~120/.5~~	~~"~~	~~B~~	~~Ceph/Rm~~	clouds	
GRATING	ILLUM. TEST			BC		250μ	IIaF	—	test	5 x 6½ inch plate	
										44° 511	
10/100	4	2.9	G8III +A3V	BC	G8/.2	120/.5	IIaOe	B	KK	↓ *Comp v str *	Fine
40/140		"	"	"	"	"	"	B	"	*	s/str Fine
40/250	5	1.9	A0 IV	"	"	"	"	B	"	*	v str
40/60		"	"	BC	G8/-.025	120/.5	IIIaJe	B	"		comp Fine v sl wk pk
							IIbJe			clouds	
					"	"	"	B		42° 511	cent Blue

311 Pg #1

Date Nov. 8/9/79 Observers Gu / TN

Emulsion Batches: HIE, Hi-Je

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44081	HD 204867	21 26.3	-06 01	20 14	20 38	02 01W	-05 38	Ne/[illegible]	30-30-30
44082	HD 204867	"	"	20 46	21 06	02 28W	-5 38	Ne/[illegible]	30-[illegible]
44083	HD 209750	22 00.7	-00 48	21 18	21 42	02 30W	-00 27	Ne/ "	[illegible]
44084	HD 213307	22 25.3	+57 54	21 50	22 33	02 57W	+58 21	Ne/ "	30-30-30
44085	HD 8890	01 22.3	+88 46	22 41	22 53	00 36 E	+89 10	Ne/ "	30-30-30
44086	HD 20902	03 17.2	+49 30	23 00	23 06	01 22 E	+49 48	Ne/ "	30-30-30
44086 ✓	Spot Calc. for	44081-86		7½U	D4 10min 7680	D4 10min 8464	D3 30min 8464		
44087	HD 24760	03 51.1	+39 43	23 28	23 41	01 22E	+39 57	Fe/—	13-13
44088	"	"	"	23 44	23 57	01 05E	"	"	15-15
44089	"	"	"	00 06	00 17	0 45E	"	"	17-17
44090	"	"	"	00 25	00 36	0 27E	"	"	17-17
44091	"	"	"	00 43	00 54	0 09E	"	"	17-17
44092				01 04	01 18	0 15W	"	"	17-17
44093				01 21	01 33	0 30W	"	"	17-17

Spectr. Temp. +41°F Dome Temp./Hum. +34°F/95% Transparency Conditions hazy 312

Focus 514

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/112	5"	2.9	G0Ib	BC	G12/.9	RS	HIE	B	IRCeph/Gu	'V' filter	fogged
* Slice comp Fld lens used but brass lens was in for 1st 30sec comp. (Maybe no comp because of V filter orientation.											
40/115	5"	2.9	G0Ib	BC	24A/mm G12/.9	RS	HIE	B	IRCeph	V filter incorrect orientation	?
40/113	"	2.93	G2Ib	"	"	"	"	"	"		?
40/112	≈3	3.96	F5Ib	"	"	"	"	"	"		exp good scuffed
40/115		2.08	F5Ib	"	"	"	"	"	"		vsl str
40/115		1.8	F5Ib	"	"	"	"	"	"		vsl str
							"			different film batch than strips!	
40/103	3"	2.71	B0II	BC	G81-.025	120/.7	IIIaJeb	B	SB Tn		
40/106	3-4	"	"	"	"	"	"	"	"		
40/103	"										
40/100										T=37°F set 514	
40/100										Nobel: O=91	
40/100											
40/100											
										OVER →	

3B 19 #2 Cont

Date Nov. 8-9 1979 Observers T.G.

9 to 2 95 Cold

Emulsion Batches:

18 256 5" D19 68° Ha-J-e 12108 ... 19109 Baked 4hr 50°C

16 256 5" D19 68° Ha-J-e(+) 12108 ... 20049

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44094	HD 24760	03 51.1	+39 43	01 42	01 54	00 51 W	+39 57	Fol—	17-17
44095				02 00	02 11	01 08 W		Fol—	17-17
44096				02 15	02 26	01 23 W			17-17
44097				02 30	02 41	01 38 W			17-17
44098				02 45	02 58	01 55 W			17-17
44099				03 04	03 16	02 13 W			17-17
44100				03 24	03 38	02 35 W			24-17
44101				03 41	03 55	02 52 W	+39 58		20-17
44102				04 01	04 13	03 10 W			17-17
44103				04 21	04 33	03 30 W			17-17
44104				04 39	04 55	03 52 W			17-17
44105			**	05 05	05 19	04 16 W			15-15
44105 T	Spot Calib for	44087	-44102	15 min	D4 17.5 V 3400	D4 15 V ~390	D4 15 V 4810		
44095 T ✓	" " "	44103	-05,07	"	"	"	"		
44106	HD 29139	04 30.2	+16 18	05 30	05 31	03 49 W		FO/ND	8-8

Spectr. Temp. ...
Focus ...
Spectr. Temp. ...

Exp Mtr	Seeing
4100	2
4100	
4100	
4100	
4100	
4100	
4100	
4100	
4100	
4100	
4100	2

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... thin cloud nearby ... 314.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/100	3"	2.71	B0.5V	BC	G8/-.025	120/.7	IIIa-J-eb	B	SB Tn		
40/100										T= 36°F [illegible] 516	
40/100										same cloud	
40/100											
40/106											
40/106										thin cloud	
40/124											
40/117											
40/110											
40/115							IIIa-J-e*			Fe Arc Adjusted - [illegible]	
40/115							"			Tram Vein	
40/120	2"						"		** Problem noted MAY 1981		
							"	S	44105T prob for #s 44103-05, 7 44095T prob for #s 44087-44102		
							IIIa-J-e				
40/30	1-2"	2.39	K5III	BC	G8/-.025	120/.7	IIa-J-e	B	std Vel	**	
										Over again	

315 #3

Date Nov 89 Observers J.M.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44106F	Focus Test							Fe/-	3/5
44107	HD 24760	03 51.1	+39 43	05 58	06 16	05 13W	+40 00	Fe/-	15-15

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 316

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. +28°F / 99%

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	68/-.025	120/.7	IIaJe	B		T-35°F Set 516 **	
[illegible]	[illegible]	40/116	2	2.71	B03V	"	"	"	IIaJe*	B	SB Tn		
											KK	** On Far right	
		KK. If I do another big run, I will need										of IIaJe* exp box	
		2 Full boxes of IIaJs on hand.										if it matters.	
				If you do									

317

Sun Mon

Date ..Nov. 11-12..... Observers ...Tm.....

Emulsion Batches:
..IIaO.e...02059-...05119
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44108	HD 42379	06 05.3	+21 36	02 02	03 47	0 42 W	+21 39	Fe/ND	5-5-5
44108 T ✓	Spot Calc for	44108 -	44113	15 min	@ 15V	D4 3900	D3 4300 D2 4810		
44109	HD 46966	06 31.1	+06 10	03 51	04 35	1 05 W	+6 10	Fe/ND	5-5-
44110	HD 38771	05 43.0	- 9 42	04 40	04 42	2 01 W		"	7-7
44111	HD 37742	05 35.7	-2 00	04 46	04 47	2 13 W		"	7-7
44112	HD 47432	06 33.5	+1 42	04 52	05 23	1 50 W	+1 43	"	5-[illegible]
44113	HD 88021/2	10 3.8	+20 49	05 27	06 28	0 35 E	+20 30	"	5-5-5
44113 F	Focus					"	"	Fe/-	5-5

Spectr. Temp. +35°F Dome Temp./Hum. +30°F / 99% Transparency Conditions Stable but part cloud

Focus 516

Spectr. Temp. +33°F Dome Temp./Hum. +27°F / 100%+

318

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/240	5"	7.72	B1Ib	BC	G12/68	150μ/.5	IIaO-C	B	CNO-Bln		v sl str
							"				
200/90	6"	6.80	O8.1V	BC	G12/68	150/.5	"	B	CNO-Bln		v sl str
40/12	"	1.86	B0.5Ia	"	"	"	"	B	"		very str.
40/12	"	1.59	O9.7Ib	"	"	"	"	B	"		very str.
400/100	5	6.36	O9.7Ib	"	"	"	"	B	"	T-33°F	v sl str
400/150	3-6"	7.20	gG5 A2	"	"	"	"	B	VB Bln		v sl str ~~[illegible]~~
				"	"	"	"	B			good

KK – only 6 IIaO plates in dome box.

319 Mon. Tues

Date Nov. 12-13. 1.79... Observers But-Th.....

Emulsion Batches: IIaO-e 02059-05119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44114	HD 202313	21 09.9	+30 33	18 08	19 36	01 31W	+30 55	Fe/ND	5-5-5
44115	HD 217695	22 57.4	+47 24	19 57	21 13	01 21W	+47 53	"	5-5-5
44115T	Spot Calc for 44114-19.								
44116	HD 18337	2.51.7	+59.11	21.31	22 49	-01 00E	+59 33	Fe/ND	5-5-5
44117	HD 16855	02 37.1	+43 01	22 57	23 28	-0 06E	+43 30	"	5-5-5
44118	HD 34547	05 13.2	+13 29	23 35	00 55	01 13E	+13 35	"	5-5-5
44119	HD 43496	06 11.4	+15 53	00 59	02 02	-01 04E	+15 56	"	5-5-5
44119F	Focus Test							Fe/-	5 5

Spectr. Temp. 38°F Dome Temp./Hum. +33°F/60% Transparency Conditions s/hazy

Focus 517

Spectr. Temp. 35 °F Dome Temp./Hum. 30°F/97%

320

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/100	2"	7.56	B9	BC	G12/.68	120 μ .5	IIaoe	B	Ap MR	Label is #13	v sl str.
400/100	"	7.50		"	"	"	"	B			v sl str.
							"				v
400/100		7.85	A0	BC	G12/.68	20/.5	"	B	Am MR		v sl str
400/100	1"	6.7	A2	"	"	"	"	B	Am MR		v sl str.
400/100	1"-2"	7.5	B9	"	"	"	"	B	Ap MR		v sl str
400/76	2	7.16	B9	"	"	"	"	B	Ap MR		v sl str
				"	"	"	IIaO	B			good

321

Tues Wed

Date Nov 13-14 / 79 Observers But-Tn

6m 70° Emulsion Batches: IIaOe 02059-12119
4m 70° IIIIeb

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44120F	Focus Test					0		Fe/—	5-5
44120	HD176003	18 53.0	+44 05	17 29	18 21	2 38W	+44 18	Fe/ND	5-5-5
44120T	Spot Calc for 44120-21.				[illegible] @ 15V	D4 3900	D3 4300	D2 4810	
44121	HD 2019	00 19.4	+30 49	18 32	19 36	1 35E	+31 22	Fe/ND	5-5-5
44121F1	Focus test (after .005 inch rotation)							Fe/—	10-10
F2								Fe/—	10-10

Spectr. Temp. 38°F Dome Temp./Hum. 135°F/72% Transparency Conditions [illegible]

Focus 517

Spectr. Temp. ..... Dome Temp./Hum 33°F/85%

322

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	55					BC	G12/.68	120μ/.7	IIaO	B			good
[illegible]	[illegible]	400/100	2	7.00	A1	BC	G12/.68	120μ .5	IIaoE	B	Am MR	sl cloudy	v sl str.
									"				
[illegible]	5-5	00/110	1.3"	6.78	B9	BC	G12/.68	120μ .5	"	B	Ap MR	cloud	v sl str
Fe/-	[illegible]								IIIaJ	A	T=40°	blue blue, red in red, cewer ok	
Fe/-	[illegible]					BC	G12	70/.7	"	B	F=513	"	

323

Wed/Thur

Date Nov 14/15 74 Observers [illegible]-Tu/Tu Ly

Emulsion Batches: IIa.O.E. 02059-12119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
44122	HD186688 = SU Cyg	19h 40.8	+29° 01'	21h 19	21 57	5h 30 W		Fe/ND	5-5-5
44123	HD203156 = HR8157	21h 15.4	+39° 49	22h 02	22h 29	4h 27 W	+38 19.2	Fe/ND	5-5-5
44123T	Spot Calm for	44122	15 min @ 15v		D4 3900				
44124	HD17327	2h 41.8	+64° 14	22h 35	0009	0 36 W	+64° 40	Fe/ND	5-5-5
44124T	Spot Calm for 44122-24				15 min @ 15V	D4 3900	D3 4300	D2 4810	
44125	HD 10260	01 35.3	+60 32	00 20	00 48	2 24 W	+61 05	Fe/ND	77
44126	HD 30869	04 46.2	+13 29	00 52	01 29	0 03 E	+13 47	Fe/ND	7-7-7
44127	HD 28363	04 23.3	+15 57	01 34	01 50	0 40 W	+16 15	"	7-7-4
44127	F Focus Test						"	Fe/—	7-7-7
44127F2	Focus test after ph rotation & centering of comp beam							Fe/—	15-15
F3	"							"	"
F4	"							"	"
Nov 16									
F5									
F6									

Spectr. Temp. +38°F Dome Temp./Hum. +32°F/90% Transparency Conditions Partly cloudy 324

Focus 515

Spectr. Temp. +33°F Dome Temp./Hum. 27°F/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
89/800		6.8-7.7	F0-G1	BC	G12/.68	150μ/.3	IIaOE	B	Ceph/Evans	37°F Focus 515	fine
121/400		5.89	F2	"	"	150μ/.5	IIaOE	B	Ceph/Evans		sl strong
400/120	2"	7.77	B8III	"	"	150/.5	IIaOE	B	SU Cas Assoc		v sl strong
							"				
800/93	3"	5.58	B8	BC	68/-.025	150μ/.5	"	B	SB Ly	T=35°F	v sl strong
400/115		6.77	F5	"	"	150/.3	"	B	SB-Bln-Tur-Ly	occasional cloud interrupted	sl strong
400/32	3"	7.12	F8	"	"	150/.3	"	B	"	cloud	
				"	"	"/.7	IIIW-e	B			no comparison
				"	"	70/.7	IIIaJeb	A		T=35°F F=514	
				"	"	"	"	B		"	
				"	"	"	"	B		F=509	
				after additional adjustments							
								A		T=30°F F=505.5	should be 506.5
								B			

325 Sat/Sun

Date Nov. 17/18 79 Observers Tnr - Tn

Emulsion Batches:
7m 68° IIa-O-e 02059 - 12119
IIa-O-e# 02059 - 14119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44128	HD 17706	2 45.4	+64 02	20 05	21 52	1 31 E	+64 21	Fe/ND	4-4-5
44128T	Spot Cal'n	for 44128-31,			15min @ 15V		D4 3900	D3 4300	D4 4810
44129	HD 17443	2 42.8	+67 25	22 02	00 35	1 14 W	+67 43	Fe/ND	4-5-5
44130	HD 28363	4 23.3	+15 57	00 40	01 05	0 6 W	+16 09	Fe/ND	5-5-5
44131	HD 30869	4 46.2	+13 29	01 07	01 25	0 4 W	+13 37	"	5-5-5
44132	HD 27383	4 14.2	+16 18	01 29	02 01	1 11 W	+16 31	"	5-5-5
44132T	Spot Cal'n	for 44132-37,			15min @ 15V		D4 3900	D3 4300	D2 4810
44133	HD 28363	4 23.3	+15 57	02 03	02 37	1 39 W	+16 09	Fe/ND	5-5-5
44133F1	Focus Test	with new	shims				"	Fe/-	5-5
44133F2	"	"	"				"	Fe/-	5-5

Spectr. Temp. 41°F ..... Dome Temp./Hum. 39°F/93% Transparency Conditions very hazy - Fog 32.6

Focus 503

Spectr. Temp. 41°F ..... Dome Temp./Hum. 36°F/100%+ zero point of focus curve 506.5 at 30°R

Cloud Too

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/205	3"	8.89	B5	BC	G12/.68	200μ/.5	IIaOE	B	Su Cas R Abs		v sl weak
							"				
800/200	1"-2"	9.12	B9 I	BC	G12/.68	150μ/.5	IIaOE	B	Su Cas R Abs		uneven
900/80	"	7.12	F8	BC	"	150μ/.3	IIaOE	A	Hyad. Bin.		v sl strong
900/80	2"	6.77	F5	"	"	"	"	B	Hyad. Bin		sl strong
900/80	"	7.44	F8	"	"	"	IIaO-E*	A	Hyad. Bin.		v sl strong
							"				
900/78	2"	7.12	F8	"	"	"	"	B	Hyad. Bin.	Cloud	
				"	"	FD4/.7	"	A			sl. blue
				"	"	"	"	B			sl. blue

227

Sat/Sun

Date Nov. 24/25 Observers Bk - Bts

Emulsion Batches: 7" D196 IIaO.e. 02059 - 14119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
~~34F~~ descend	focus							Fe/–	5-5-
44134	HD187691	19 46.2	+10 10	17 24	18 50	2 56 W	+10° 19.8	Fe/ND4	5-5-5
44135	HD194093	20 18.6	+39 56	18 59	19 02	2 36 W	40 12	Fe/ND4	5-10
44136	HD209166	21 50.2	+12 38	19 07	19 54	1 50 W	+13° 01.9	"	5-5-5
44137	HD219449	23 10.7	-9 38	20 00	20 25	1 07 W	-09° 08.8	"	5-5-
44138	HD218634	23 04.5	+8 08	20 31	21 12	2 01 W	+8 37	"	5-5-
44139	HD222399	23 35.1	+37 06	21 17	22 19	2 37 W	+37 35	"	5-
44140	HD13994	2 11.0	+57 04	22 26	23 36	1 17 W	+57 24	"	5-
✓	spot cal for	44134-44,		15V 15min	① D4 3900	② D3 4300	③ D2 4810		
44141	HD14189	2 12.6	+39 49	23 41	1 28	3 08 W	+40 12	"	5-
44142	HD38670	5 42.4	+20 50	1 36	2 02	0 12 W	+20 51	"	5-
44143	HD40872	5 56.6	+51 35	2 12	2 44	0 38 W	+51 36	"	5-5-
44144	HD32092	4 55.6	+26 32	2 52	4 41	3 38 W	+26 39	"	5-5-
44F	focus							Fe/–	5-

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr	Seen
400	100
	5.2
	1-
	100
	10

Spectr. Temp. ...50°..... Dome Temp./Hum. 44°F/..77%. Transparency Conditions ....clear.....328..

Focus .....500.....

Spectr. Temp. ..... Dome Temp./Hum. 37°/..99%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	GQ/.68	20μ .5"	IIaOe	B		50° 500	no comp.
100/100	2	5.6	F8	"	"	"	"	B	Waterloo		v sl str
40/12		2.9	F8	"	"	"	"	"			v sl str
100/100	1-3	5.9	F1	"	"	"	"	"			
105/180		5.3	K0	"	"	"	"	"			
100/200	2-3	6.6	M2	"	"	"	"	"			fine comp sl wk
100/100		6.9	F1	"	"	"	"	"		shadowed by scrap of torn emulsion	u. sl. strong
100/152		7.0	B2	"	"	"	"	"			v sl str
							"				
100/100		7.5	F2	"	"	"	"	"			v sl str
100/80		5.0	B9	"	"	"	"	"		43° 502	v sl str comp wk
100/80	3	6.4	A5	"	"	"	"	"		comp. on stellar !	v sl str comp wk
40/83		7.3	F5		"	"		"			fine
				"	"	"	"	"		42° 502	v sl blue
										clouds	

329 Wed/Thurs

7m D19

Emulsion Batches: IIaO-e 02059 24119

Date Nov 28-29 1979 Observers Rm-Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44145F	Focus Test					0	+10	Fe/–	5-5
44145	HD186688 = SU Cyg	19h 40.8	+29° 01	17h 26	18h 32	2h 59 W	+29° 11.4	Fe/[illegible]	5-8
44145T ✓	Spot Calib for 44145-48				15 min @ 15U	D4 3400	D3 4300	D2 4[illegible]	
44146	HD180283 = HR 7308	19h 12.0	+27° 45	18h 35	19h 22	04h 18 W	+27° 53	Fe/[illegible]	6-6
44147	HD 222368 i Psc	23h 34.8	+5° 05	19h 25	19 54	00 26 W	5° 31	Fe/[illegible]	10-10
44148	HD 203156 = HR 8157	21h 15.4	+37° 49	20h 21	21h 09	4h 02 W	+38° 09	Fe/[illegible]	9-9
	~~HD16893~~	~~2h 37.4~~	~~+67° 23~~						

Spectr. Temp. 40°F Dome Temp./Hum. 33°F / 80% Transparency Conditions Cirus - cloud 330

Focus 504

Spectr. Temp. 36°F Dome Temp./Hum. / 88%

Comparison Type Filter	Comparison Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						B.C	GR/68	150μ .5	IIaOE	A			no comp. discarded
		300/135	4"-6"	6.8-7.7	F0-G1	"	"	150μ/.5	IIaOE	B	Ceph/Evans	some cirus	fine
									"				
		400/87	6-8	6.7	F6I-IIb	"	GR/.68	150μ/.5	IIaOE	A	Ceph/Evans		fine
		80/18	5"	4.64	F7V	"	"	"	"	B	Std vel		vs/STV.
	9.4	400/97	4"	5.89	F2	"	"	"	"	A	Ceph/Evans		fine
												Snow	

331

Date Nov. 29-30/79 Observers KK - Tn

Emulsion Batches: Dalie 02059-28119 17192

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44149	HD 215182	22 38.3	+29 42	20 08	20.56	2 29W	+	Fe/—	10-[illegible]
44150	"	"	"	21 06	21 35	3 08W	+	Ne/—	30-30
44150T	Spot Cal	for 44149		15min @	15V	D4 3400	D3 4300	D2 4810	
44150F1	Focus Test					0h	+25°	Fe/—	10-10
F2	" "					"	+	Fe/—	5-5
F3	" "					"		"	"
T1	Full Aperture Shift Test							Fe/—	5-5

Spectr. Temp. +34°F ..... Dome Temp./Hum. +29°F / 90% Transparency Conditions . v. hazy 332

Focus ... 506 .....

Spectr. Temp. +32°F ..... Dome Temp./Hum. +27°F / 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/110		3.8	G82 +F	RC	G8/+.2	120μ	IIaO-e	A			sl stm
70/				"	"	RS	IIIN	B		Found both slit comp feed lenses in simul transmitting	
							IIaO-e				
				RC	G8/+.03	RS	IIaO	B	−2.1μ	Single lens in feed only ✓	sl blue
				"	"	120μ	"	A	+1.2μ		sl blue
				"	"	"	"	B	+4.1μ		sl blue
				"	"	"	"	A	−1.3μ		sl blue

Date Nov. 30 - Dec. 1 Observers Tm - KK

Emulsion Batches:
Da O-e 02059 - 28119
IV Mn 1355

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing
44151	HD 219150	23 08.6	+1° 39	17 26	18 44	0 9E	+2 11	Fe/ND	5-5-5	40/200	3
44151T	Spot Calib for 44151 -		-54		15min@15V	D4 3900	D3 4300	D2 4810			
44152	HD 222368	23 34.8	+5 05	18 51	19 01	0 18E		Fe/ND	5-7	40/94	
44153	HD 217782	22 [illegible]	+42 13	19 05	19 21	0 38W		Fe/ND	5-5-5	40/95	
44154	HD 8890B	1 22.5	+88 46	19 32	22 11	0 9W	+89 12	"	5-5-3	30/85	
~~44155~~	HD 8890 discarded	1 22.5	+88 46	22 20	22 42	0 39W		Ne/—	30-30-30	40/90	
44156	HD 8890	1 22.5	+88 46	22 45	23 04	1 01W	+89 12	Ne/—	30-30-30	40/90	
44156T	Spot Calibration for 44156 -		7½ 15	7080 D4	7680 D4	8464 D4					
44157	HD 18925	2 57.6	+53 07	23 17	00 01	2 40W	+	Ne/—	30-30-30	40/90	3
44158	HD 18925	"	"	00 08	00 24	3 3W		Fe/—	7-7-7	40/90	2
44159	HD 47105	6 31.9	+16 29	00 28	00 56	0 1W	+	"	7-7	40/55	3
44159F	Focus test							Fe/—	5-5		

Spectr. Temp. 33°F Dome Temp./Hum. +27°F / 80% Transparency Conditions gusty, part cloudy

Focus 506

Spectr. Temp. 28°F Dome Temp./Hum. +22 / 93%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]	300/200	3"-5"	7.57	F0	BC	G12/.68	150a/.7	IIaD-e	B	Fe prog		fine
									"				
[illegible]	[illegible]	400/94		4.64	F7V	BC	G12/.68	150a/.7	"	A	Std Vel		fine
[illegible]	[illegible]	400/105		5.17	A2	"	"	"	"	A	Asm Sp	+32°F	fine
	[illegible]	300/85	2.5"	8	F	"	"	150/.3	"	B	"	α UMiB probably contaminated by A	focus [illegible]
[illegible]	[illegible]	40/90		2	F	"	G12(24)/.68	120/.5	HIE	A	"	V filter and slit	only comp.
[illegible]	[illegible]	40/96		2	F	"	G12(24)/.9	120/.5	IV-Nh	B	"	" RS of bias	wk
									IV-Nh				
[illegible]	[illegible]	40/100	3"	V= 2.94	G8II+ A3V	BC	G24/.9	120/.5	IV-Nh	A	Asm Sp	" "	wk
[illegible]	[illegible]	40/90	2¾"	"	"	"	G12/.68	120/.5	IIIaJe	B	"		s/ str.
"	[illegible]	40/55	3¾"	1.9	A0IV	"	"	"	"	A	"	cloud narrow decker for part exp.	
[illegible]	[illegible]					"	"	120/.9	IIaD-e	A			blue

335

Clear from 18:30 Eng Tests

Date 1972 Dec 2/3 Observers KK-Tn / Th

Emulsion Batches:
IIaO-e 02059 - 01129 17 19
IIIaJeb 12108 - 10119 13 238

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44160	HD 1326	0h 12.7	+43 27	22 00	00 33	4 45 W	+43 58	Fe/NDA	5-5-5
44160 T ✓	Spot Cal for 44160-63.			15 min @ 15 V		D4 3900	D3 4300	D2 4810	
44161	HD 3712	0 34.8	+55 59	00 44	00 46	4 35 W		Fe/D	5-5-5
44162	HD 6582	1 1.6	+54 26	00 51	01 07	4 28 W	+54 53	"	5-5-5
44163	HD 6961	1 5.0	+54 37	01 10	01 16	4 34 W		"	5-5-5
44164	HD 33328	5 4.4	-8 53	01 26	02 11	1 31 W	-8 45	Fe/-	* 5-7-5
44164 T ✓	Spot Cal for 44164-66			15 min @	17.5 V D4 3900				
44165	HD 37468	5 33.7	-2 39	02 24	03 01	1 52 W	-2 32	Fe/-	7-7-7
44166	HD 47105	6 31.9	+16 29	03 07	03 15	1 07 W	+16 26	"	7-7-7
44166 F	Focus Test					"	"	Fe/-?	10-10

Spectr. Temp. +25°F Dome Temp./Hum. +20°F/97% Transparency Conditions Scattered clouds

Focus 508 - 509 336

Spectr. Temp. °F Dome Temp./Hum. +16°F/100% ++ Frosty

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/150	4"-2"	9.3	M1V	BC	G12/.68	150/3	IIaOe	A	Asm-Sp		v sl wk some flexure
							"				
400/135	3"	3.34	K0II	BC	G12/.68	150/15	"	A	std vel	T=22°F Set 509	guiding
400/110	"	5.81	G5Vp	"	"	"	"	B	Asm-Sp		fine
400/93		4.50	A7V	"	"	"	"	A	Asm-Sp		fine
40/70	4"	4.07	B2IVe	"	"	"	IIIaOeb	B	Be-Bln	* Fired manually - seems that filter wheel is capput.	fine
							"			comp wk one side	
40/110	3"	3.51	09.5V	BC	G12/.68	150/1.0	"	A	SB Bln	cloud	fine
40/106	3"	1.9	A0IV	"	"	120/1.0	"	B	Asm Sp		fine
				"	"	"	IIaOe	A?		Filter wheel again	sl blue

337

Date Dec. 7/79 Observers KK-Tn

Emulsion Batches:
IV-N h (1/15 2s 1m)
IIaF
IIaD

Spectr. Temp.
Focus 50
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seeing
44166 F2	Focus test					0h	+28 50	FeNe/Wr6	10-10		
F3	Focus test							"	10-10		
T1	Comparison Test							"	5-20		
T2	Shift test							"	3-3-3-3		
T3	Shift test + Slit Rot test							Fe/—	10-10		
T4	" "	" "	"					Fe/—	10-10		
T5	Comparison Test							Ne/— FeNe/	30 5		
T6	Spot Calibration			8464	D4	15m	7½V				
T7	" "			"	V	"	"				

Spectr. Temp. 40° Dome Temp./Hum. +37°F / 98% Transparency Conditions

Focus 503

Spectr. Temp. 41°F Dome Temp./Hum.

338

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	[illegible]					BC	G12/.68	70/1.0	III 2Sch	A	−10.0 μ		blue
"	[illegible]									B	−8.6 μ		blue
"	5-2[illegible]									A			
"	3-3 3-3									B	−2.0 μ !		
[illegible]	[illegible]							120/1.0	II 2F	A	−0.0 μ	on right	
[illegible]	[illegible]							"	"	B		" "	
[illegible]	70 5							"	IV-Nh	B		should have had V filter	
									IV-Nh				
									HIE 3				

339

Date Sat-Sun Dec 8/9 1979 Observers Pik-Tn

Emulsion Batches: IIaO-e 02059 - 01129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44167	HD 32002	4 55.6	+26 32	23 14	00 48	00 39 W	+26 45	Fe/1.0	5-5-5
44167T	Spot Calib for 44167 - 70.			15 min @ 15V		D4 3900	D3 4300	D2 4810	
44168	HD 38670	5 42.4	+20 50	0 50	01 27	00 31 W	+20 37	Fe/1.0	5-5-5
44169	HD 71153	8 10.7	+24 52	1 32	3 00	0 33 E	+24 42	"	5-5-5
44170	HD 71152	8 10.7	+24 52	3 02	3 40	0 06 W	"	"	5-5
44170F	Focus Test					"	"	Fe/—	5-5
Dec 11	Tests.			Dome +46°F		Spectrograph 48°F		Set	502
44170F2	G12 Focus Test					0"	+15°	Fe/—	[illegible]
44170F3	" " "							"	"
44170F4	G43 Focus Test							"	15-13
44170F5	" " "							"	"
44170F6	" " "							"	"
44170F7	" " "							"	"
44170F8	G8 Focus Test							"	25-25
44170F9	" " "							"	"

Spectr. Temp. ...
Focus ... 59
Spectr. Temp. ...

Exp. Mtr	Seeing
40/110	3-5
40x/110	3-5
40x/92	2"
40x/33	2"

Spectr. Temp. +30°F Dome Temp./Hum. +28°F/89% Transparency Conditions Good - sl hazy cloud

Focus 508

Spectr. Temp. +27°F Dome Temp./Hum. +20°F/87%

340

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]	400/110	3"-5"	7.3	F5	BC	G12/68	150μ	IIaJe	B	Waterloo		
[illegible] 4810								"				
[illegible]	400/110	3"-5"	5.0	B9	BC	G12/68	150μ	"	A	Waterloo		vsl str.
" 5-5-5	400/92	2"	8.2	G	"	"	"	"	B	Waterloo	Approx 1/3 contaminated from HD 71152	
" 5-5	400/33	2"	7.2	A3	"	"	"	"	A	Waterloo		
[illegible] 5-5					"	"	"	"	B		Cloud	
Sol [illegible]												
[illegible]					BC	G12/68	150/1.0	IIaJ-e	A		Cent S blue	
"					"	"	"	"	B		" " "	
" [illegible]					"	G43/15	"	"	A		cont more blue than for G12	cent blue
"					"	"	"	"	B			"
"					"	"	RS*	"	A		* Forgot Fld Lens	no comp
"					"	"	" *	"	B		" " "	" "
" [illegible]					"	G81-.025	150/1.0	"	A		T=49°F now	cent vsl Red
"					"	"	"	"	B		Cont →	"

341

Date Dec 11 Observers T.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44170F10	G16 Focus	Tests				0h	+15°	FeNe/wt6	4-4
" F11	" "	"						"	"
" F12	" "	"						"	"
F13	" "	"						"	"

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus ....502.....

Spectr. Temp. .....at end Dome Temp./Hum. .....

342

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G16/.7	150/1.0	098e	A			sl blue
				"	"	"		B			sl blue
				"	"	RS/<1.0**		A	Fld Lens in a bore slit / Brass lens out		
				"	"	RS/<1.0**		B	** To alliminate spurious shift		

343

Date Dec 14/15 Fri/Sat Observers Wlr - Bts

Emulsion Batches: IIaOe 02059-01129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
71F	focus							Fe/-	5-5
44171	HD214419	22h 32.9m	+56°23'	18 47	19 45	+02 24	+56° 47.9m	Fe/NO4	5-5-5
44172 ✓	HD219150	23h 08.6m	+1°39'	19h 58m	21h 16m	+03h 20m	+02° 07.3m	Fe/NO4	5-5-5
72T	spot cal for	44171-72		15min 15V	D4 ① 3900	D3 ② 4300	D2 ③ 4810		

Spectr. Temp
Focus
Spectr. Temp.
Exp Mtr
Seen

Spectr. Temp. 33°F Dome Temp./Hum. 25°F/80% Transparency Conditions clear

Focus 509

Spectr. Temp. Dome Temp./Hum. 24°F/82%

344

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	GR/168	150 .5	IIaOe	A		33° 509	v.sl. blue
400/50	3	8.94	WN7 +07	"	"	250 .3	"	A			fine
400/38		7.57	FO	"	"	150 .5	"	B		Probably uniform exposure clouds in 2nd half exposure	sl. wk.
							"				

345

Date Dec 15/16 Sat/Sun Observers Wlr - Bts

Emulsion Batches:
IIa Oe 02059 - 08129
IIIa Je 12108 - 10119
098 oze 20049 - 02119

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seem
73F	focus							Fe/-	5-5		
44173	HD 219150	23h 02.6m	+1° 39'	18h 23m	21h 01	+3h 08 W	+02° [illegible]	Fe/ND4	5-5-5	[illegible]	
~~44174~~	~~HD 16523~~			~~21h 30m~~			~~+56° 37'~~	~~Fe/ND4~~	~~2-~~	~~[illegible]~~	
44174	HD 23408 20 Tau	3h 39.9	+24 04	22h 12m	22h 14m	+00h 09m W		Fe/ND4	4-3	40/3	
44175	HD 29139 α Tau	4h 30.2	+16° 18'	22h 28m	22h 30m	-00 45m E		Fe/ND4	5-10	40/11	
44176	HD 47105 γ Gem HD47105	6h 31.9	+16° 29'	22h 55	00 47	-00 30E	+16 26	Fe/-	8-8-8	40/20	
75T	spot cal for	44173-75		15V 15min	D4 ① 3900	D3 ② 4300	D2 ③ 4810				
76T	spot cal for	44176-		15V [illegible]	17.5V D4 ① [illegible]	15V D4 ② 4300					
44177	HD 62509 (β Gem)	07 39.2	+28° 16'	01 02	01 06	-01 18E	+28 04.6	Fe/ND4	8-16	40/25	
77F	focus							Fe/-	5-5		

Spectr. Temp. 36° Dome Temp./Hum. 34°F/78% Transparency Conditions clear

Focus 508

Spectr. Temp. Dome Temp./Hum.

346

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	G12/.68	150 .5	IIaOe	A		36° 508	ok
400/110		7.37	F0	"	"	"	"	A	Fernie		fine
400/		10.6 (UV)	WC6	"	G43/.5	250 .3	IIaOe	A		37° 511 clouds	
40/3		3.8	B9	"	G43/.5	250u .3	IIaOe	B	STD Vel.	37° 511	sl stv.
40/11		2.39	K5III	"	G12/.68	250 .3	IIaOe	B	STD Vel	37° 507	fine comp sl stv.
40/120		1.9	A0III	"	G8/-.025	90 .5	IIIaJe	A	KK	37° 505	fine
							IIaOe				
							IIIaJe				
40/25		2.15	K0III	"	G8/-.025	150 .5	IIaOe	A	std vel		fine
							IIaOe	A		37° 507	ok

347

Date Dec 16/17 Sun/Mon Observers KK-Bts/Bts

Emulsion Batches:
6½m 68° 098 02e 20049-02119
6½m 68° IIIa Jeb 12108-10119
7m 67° IIa Oe 02059-08129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
78F	focus							Fe/–	10-10
44178	HD 22468 (HR1099)	03h 31m 39s	+00° 16'	23 20	00 52	2 41 W	+0 32	Fe/ND4 Ne/–	5-5 5-5
44179	HD 47105	6 31.9	+16 29	01 04	01 21	0 14 W	+16 28	Fe/Ne/wr6	6-6
44180	"	"	"	01 24	01 39	0 32 W	"	Fe/Ne/wr6	6-6
44181	HD 62509	7 39.2	+28 16	01 44	02 00	-00 20E	+28 06	Fe/Ne/wr6	6-6
44182	"	"	"	02 07	02 10	-00 10E	+28 06	Fe/ND4 Ne/–	7-7 7-7
44183	HD 76151	8 49.4	-5° 4'	02 17	04 19	+00 47	+05 20	Fe/ND4 Ne/–	5-5-5 5-5-5
83T	spot cal for	44178, 82, 83		15 min	15V D3 ① 4810	7V D1 ② Hα	7V D2 ③ 5450		
81T	spot cal for	44179-81		15 min	12.5V D4 ① 3900	15V D4 ② 4300	15V D4 ③ 4810		
	~~HD 86590~~			~~04 34~~					
44184	HD 99028 (i Leo)	11h 18m.7	+11° 05'	05 16	05 36	-00 23	+10 39	Fe/ND4	5-10
44185	HD 103095	11h 47m.2	+38° 26'	05 45	7 03	+00 36	+37 53	Fe/ND4	5-5-5
85T	spot cal for	44184-85		15V 15 min	D4 ① 3900	D3 ② 4300	D2 ③ 4810		
85F	focus							Fe/–	5-5

Spectr. Temp. 27° Dome Temp./Hum. 12°F/77% Transparency Conditions clear

Focus 511 348

Spectr. Temp. 12° Dome Temp./Hum. 3°F/77%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	G16/.7	150 .5	09802e	A		27° 512	*
Fe/NO4	5-5	400/124 V	6"	6.01	dG9	"	"	"	"	B	Bln.	V filter in motor	* v. sl. str.
Fe/-	5-5	40/114	6+	1.9	A0IV	"	G8/-.025	120 .5	IIIaJeb	B	Asm-Sp/KK	22° 511	fine
		40/106	"	"	"	"	"	"	"	A	"		fine
		40/155	"	2.15	K0III	"	"	"	"	A	Std Vel		fine
		40/11 V	"	"	"	"	G16/.7	120 .5	09802e	A	std vel	19° 514	* v. sl. str.
		400/121 V	"	V= 6.0	dG3	"	"	150 .5	"	A	Asm Sp/KK	V filter in motor	* fine ~~v. sl. str.~~
									09802e			corner chipped	*
									IIIaJeb				
												counting too slow back to mask only on sup mtr	
		400/100	4"	4.34	F2IV	"	G12/.68	150 .5	IIaOe	A	KK	16° 515	fine
		400/90		6.45	G8VI	"	"	"	"	A	KK		fine
									IIaOe				~~fine~~
Fe/-	5-5					"	"	"	"	A		12° 516	wk focus ok.

* all 098's light struck by red safelight - useless for photometry - prob. ok for RV's

349

Date Dec 17/18 Mon/Tue Observers Inr - Bts

Emulsion Batches: JnOe 02059 - 08129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
86F	focus							Fe/—	5-5
44186	HD 16893	02h 37.4m	+67° 23'	17 51	21 51	00 33W	+67° 43'	Fe/ND4	5-5-5
44187	HD 28363	4 23.3	+15 57	22 10	23 23	00 22W	+16 08	Fe/ND4	8-8-8
44188	HD 30869	4 46.2	+13 29	23 29	00 05	00 41W	+13 39	Fe/ND4	8-8-8
44189	HD 28394	4 23.6	+17 19	00 10	01 34	02 33W	+17 33	Fe/ND4	8-8-8
89T	spot cal for	44186-89		15min 15V	① 3900 D4	② 4300 D3	③ 4810 D2		
44190	HD 28394	4 23.6	+17 19	01 45	03 21	04 21W	+17 33	Fe/ND4 Ne/—	5-5 (not filter) 5-5-5
90T	spot cal for	44190		15min	15V ① 4810 D3	7V ② Hα D1	7V ③ 5450 D2		
90F	focus							Fe/—	10-10

Spectr. Temp. 19° Dome Temp./Hum. 16°F/82% Transparency Conditions clear 350

Focus 514

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks		Quality
				BC	G12/.68	150 .5	IIaOe	B		19°	513	
800/—	3	8.97	A3 V	"	"	"	"	B	SU Cas R Ass.		514	vsl weak
400/—	3	7.12	F7 V	BC	G8/-.025	150/ .3	IIaOe	B	Hyades Bin	19°	571	vsl. weak
400/—	2	6.67	F7 V	"	"	"	"	B	"			"
400/—	2	7.55	F7 V	"	"	"	"	B	Hyades Std			"
							IIaOe					
400/~60	2	V= 7.05	F7 V	"	G16/.7	150/ .3	098 02e	B	Hyades Std	19° clouds!	513	FINE
							"					
				"	"	"	098 02e	B		19°	513	

35'

Thurs - Fri

Date Dec 20/21 /79 Observers Gu - Tu

Emulsion Batches:
7m 68° IIa O-e 02059-17129
7m 68° HIE

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44191	HD 219150	23 08.6	+1° 39	18 07	20 53	3 20 W	+02 07	Fe/ND	5-5-5
44191 T ✓	Spot Cal'n	for 44191			15 min	@ 15V	D4 3900 D3 4300	~~D2~~ ~~4810~~	
44192	HD 20902	3 17 11	+49 30	21 58	22 20	0 37 W	+49 47	Ne/-	30-30-30
44193	HD 26630	4 07 33	+48 09	22 31	00 16	1 42 W	+48 20	Ne/-	30-30-30
44193T	Spot cal.								

Spectr. Temp. +23°F Dome Temp./Hum. +20°F/100+% Transparency Conditions hazy-cloudy 352

Focus 512

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Downhill from here on out way.
(That is, sun is returning)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
500/150	2-3"	7.57	F0	BC	G12/1.68	150/.5	IIaO-e	A	Fe Prog	cloud *	uneven
Lost exp forgot s not enough plates to redo. "											
0/120	"	1.8	F5	BC	G12/.9	150/.5	HIE	B	IR Cyg	glass backing broken in two	strong
0/46	"	4.1	G0	BC	"	"	"	A	"		exp fine fingerprints!

* problems with peeling emulsion on this batch of IIaO's getting worse!

353

Fri/Sat

Date Dec 28/29 1979 Observers Tnr. Tn

Emulsion Batches:
IIaO-e 02059 - 17129
098-ne 20049 - 17129

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
44194 F	Focus Test							Fe/–	20-20
44194	HD 3712 (α Cas)	0h 34.8m	+55° 59	17 34	17 37	0 53E	+56 30	Fe/ND	8-8
44195	HD 17327	2 41.8	+64 14	17 54	20 25	0 13E	+64 37	Fe/ND	5-5-5
44195 T ✓	Spot Calc for 44194-96, 98-200				15min @ 15V	D4 3900	D3 4300	D2 4810	
44196	HD 28363	4 23.3	+15 57	20 35	21 50	0 28E	+16 13	Fe/ND4	8-8-8
44197	HD 30869	4 46.2	+13 29	22 08	23 35	0 54W	+13 41	Fe/ND4 Ne/–	5-5- 5-5-
44197 T ✓	Spot Calc for 44197.				15min @ 15V	D3 4810 7V H	D1 α 7V	D2 5450	
44198	HD 30869	4 46.2	+13 29	23 37	00 45	2 05W	+13 41	Fe/ND4	7-7-7
44199	HD 27383	4 14.2	+16 18	00 48	01 14	3 06W	+16 35	Fe/ND4	7-7
44200	HD 62509 (β Gem)	7 39.2	+28 16	01 18	01 38	0 04W	+28 09	Fe/ND4	7-7-7
44200 F	Focus								

Spectr. Temp. +39°F Dome Temp./Hum. +35F/85% Transparency Conditions Fine - s/haze s 354

Focus 506.5 Cloud by 1 AM

Spectr. Temp. +37°F Dome Temp./Hum +32°F/100%. Lake effect stuff

Note V+MASK was in all night.

Comparison Type/Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]					BC	G12/.68	150μ	IIIaJe	A			
[illegible]	40/18	2-3"	3.34	Ko II	"	"	" /.7	IIaOe	B	std Vel		FINE
[illegible]	800/140	4-2"	7.97	B8 III	"	"	" /.3	"	A	Su Cas R Ass		"
								"				
[illegible]	400/105	3"	7.12	F7 V	"	G8/-.025	150μ/.3	IIaOe	B	Hyades Bin-Tnr	Set 504 T=38°F	*FINE
[illegible]	200/77	3"	V= 6.3	F7 V	"	G16/.7	"	098-02e	B	Hyades Bin-Tnr	Set 507 T=38°F	*FINE
								"				
[illegible]	200/60	3"	6.77	F7 V	"	G8/-.025	"	IIaOe	A	Hyades Bin-Tnr	[illegible] 507 T=37°F	*FINE
[illegible]	400/25*	"	7.44	F8 V	"	"	"	"	B	Hyades Bin-Tnr	Set 504 T=37°F (*wk) Cloud	wk
[illegible]	80/13	"	2.15	Ko III	"	"	"	"	A	std. Vel	" Mask only in	
					"	"	" /.7	IIIaJe				

* something was across the plate while in the plateholder

355

Emulsion Batches:

.....

.....

.....

Date ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Ex

Comparison	
Type/Filter	Ex

357

Lens Slits

nominal width (μ)	actual width (μ)	actual ang. width (")	projected* width (μ)	proj. width km/sec 12Å/mm
70	68	0.4	15	13
120	102	0.6	22	18
150	129	0.76	28	23
† 200	165†	1.0	36	30

* with 0.8 anamorphic factor (exact value depends on grating r/r)

† to 50% transmission, edges not sharp